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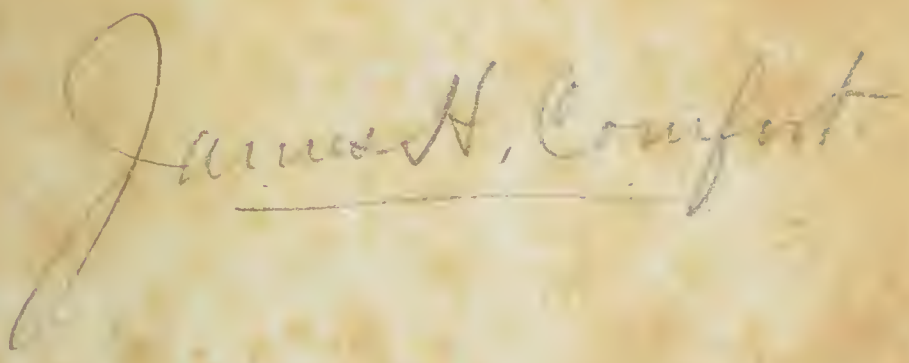

THE

WESTERN JOURNAL,

AND

Civilian,

DEVOTED TO

Agriculture, Manufactures, Mechanic Arts, Internal Improvement, Commerce,

PUBLIC POLICY,

AND

POLITE LITERATURE.

Agriculture and the Mechanic Arts are the basis of Civilization.

M. TARVER & H. COBB,
EDITORS & PROPRIETORS.

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ARTICLE I.

Railroad to the Pacific Ocean.

The policy of connecting the shores of the Atlantic and Pacific oceans by a railroad is so generally approved, and its consummation so universally desired, that it would be a useless waste of time to discuss the merits of the enterprise. This great project has been long before the people, and it is obvious that public sentiment in all parts of the Union demands the immediate commencement and vigorous prosecution of the work under the auspices of the General Government. But before it can be commenced, there are many important details to be settled by legislation; upon the adjustment of which the final success of the enterprise will, in a great measure, depend.

The location of the route will present the first, the most important, and, withal, the most embarrassing point to be adjusted by the national legislature. Local interests, sectional prejudices and individual speculations, will all be brought to bear in full force upon this point; and hence we deem it our duty, as public journalists, to counteract as far as practicable, the influence of these adverse elements.

As if resolved to repudiate the reports of the engineers now engaged in exploring the several routes ordered to be surveyed by the Executive, conductors of the press, in almost every section of the country, have engaged in advocating certain routes and in opposing others. Nearly every railroad running westwardly, which has been proposed between the Gulf of Mexico and the Falls of St. Anthony, is claimed by their projectors to be a section of the great trunk line which is to convey the commerce between Europe and Asia across our continent. One might suppose that the absurdity

of some of these claims would make them ridiculous and harmless; but let us not be deceived: they have doubtless been set up and urged upon the people along the respective lines for the purpose of giving character and strength to local enterprises; and we are persuaded that most of the railroad schemes which have been devised within the last swo years for the construction of lines in a westerly direction, are based upon the idea of their ultimate connection with the shores of the Pacific. Hence it is to be apprehended that no route can be proposed which will not be met by strong and, perhaps, uncompromising opposition, that will prevent its adoption.

This is a result anticipated by certain speculators who have been and are now actively engaged in bringing it about, with a view to obtain for their own benefit the control and emoluments of the most stupendous and important enterprise ever achieved or undertaken by any nation. And this they hope to accomplish, not by the investment of their own money, but by means to be obtained in part from the General Government, and in part from other resources than their own exchequers. The first overt movement looking to this object was made in Boston, in 1849; and though the originators of that scheme proposed to commence their road at St. Louis, we promptly objected to their plan, and, as we believe, successfully exposed the enormous speculations meditated by those who conceived the "Boston project."* It would seem that the Boston projectors had taken no steps to prepare the public mind for their movement; but based their expectation of success upon a sudden and bold proposition endorsed by the calculating talent and energy of that enterprising city. The New York company chartered with a capital of $100,000,000, have adopted a different system of tactics. They break ground so far from the point of attack, and operate at points apparently so disconnected, that few, except those initiated into the mysteries of the scheme, understand the main object designed to be accomplished by their movements.

The New York Company, though but recently organized, may be traced back to the Memphis Convention, held in 1849, where it was shadowed forth by a resolution recommending the survey of a southern route. Disconnected from all views of speculation, this resolution was so reasonable that scarce any one who desired to

* Vide Western Journal, vol. II, page 343. Vol. III, page 1 to 12. Ibid. 193 to 201.

see the road built, could object to it; but it was a strong point gained: from that time the idea of a southern route became a national fact established by a convention representing fourteen States of the Union. That resolution was followed up, after the adjournment of the convention, by a very long and elaborate address from Lieutenant Maury, the gentleman who presided over its deliberations, in which he undertook to establish the claims of a southern route over all others. In his address the author labored to associate the measure of building the southern road with the construction of a ship-canal across the Isthmus. This was designed, as it may be supposed, to bring the strength of New York and other eastern States to aid in carrying out the scheme of a southern railroad. We believed at the time that Lieutenant Maury's address was calculated to injure the prospects of a railroad to the Pacific, and expressed our apprehensions upon that point in a review of his communication, which was published in the "Western Journal."* But we have never imagined, nor do we now intend to intimate, that he had any design of defeating the work as a national measure, or of assisting a company of speculators to obtain control of the road for their own benefit.

During the state of excitement between the North and the South which succeeded the Memphis convention, the Pacific railroad received but little attention in Congress; but the southern scheme was continually kept before the public as a national measure. And it was not until the time approached, when it was obvious that public opinion would compel Congress to act definitely upon the subject, that the speculators began to uncover themselves. Their first public movement was to clothe themselves with corporate privileges, by virtue whereof they now generously propose to build a railroad from some point in the Valley of the Mississippi to the Pacific ocean. It will require no argument to show that this charter places the corporators in an attitude antagonistic to the action of Congress upon any route except that proposed by themselves; and we think we are warranted in the conclusion that, without being aware of it, many conductors of the public press and small politicians have already been enlisted in behalf of the New-York company.

The arguments against the power of Congress to create corporations have been revived, and are undergoing discussion, in con-

* Vide Western Journal, vol. III, page 351.

nection with the assumed inefficiency on the part of the General Government in prosecuting public works. Now if the N. York company can bring the public and Congress to coincide with them on these two points, it is but reasonable for them to expect that the enterprise will naturally fall into their hands. But they are too cautious and shrewd to rest their case upon these grounds without fortifying their position at all points. Hence we may expect opposition to the organization and settlement of Nebraska, with a view of embarrassing the construction of a road commencing on the western boundary of any of the States north of Texas. As we understand their plan, they propose to build the road through the State of Texas to the Rio del Norte, without the aid of the General Government; and to add force to this generous proposition, the policy of reducing the tariff is again brought up, and will, in all probability, be made to bear with tremendous effect on the Pacific railroad question. We feel assured that this view of the subject will not be regarded as unwarranted, when it is remembered that the champion of free trade is a subscriber for $10,000,000 of stock in this brilliant scheme.

But the people are resolved upon having a railroad to the Pacific, and may doubt whether the company can raise the money to accomplish a work which is not likely to pay remunerating dividends to stockholders. It happens, however, very opportunely, that Mr. Septimus Norris, Civil and Mechanical Engineer of Philadelphia, has furnished the public with a statement calculated to obviate all doubts on this point. This is the most wonderful achievement of civil engineering that has come to our knowledge; for the author seems to have found no difficulty in estimating the cost of constructing and operating a railroad, 2000 miles in length, over a country which he does not claim to have seen, and declaring dividends to stock without leaving his office.

If such statements can gain credit with the people, it is obvious that all who have constitutional scruples respecting the power of the General Government to create corporations; and those who believe the Government cannot accomplish the work in as short a time and for as small a sum as can individuals; and all who desire the reduction of the tariff, will cease to look to Congress for the means of building the road.

But notwithstanding Mr. Norris has shown that the road will pay large dividends, yet, we understand that the New York Com-

pany expect to obtain a sufficient quantity of land from Texas to build the road to the Rio del Norte, and look to the General Government or Mexico for the means to complete the road to the Pacific.

Placing the enterprise in this view, the subscription of $10,000,000 by the Hon. R. J. Walker may be regarded as quite modest, and indicative of great liberality towards his associates; especially when, as it seems, he enjoyed the privilege of being the first subscriber. Many individuals, in like circumstances, would have been strongly tempted to take the lion's share. Holding so large an interest in this enterprise, it would be unreasonable to insist upon his proceeding on a mission to China, until the plans of the company shall have been recognized and sanctioned by Congress.

But we are told that the New York Company propose to commence their road at St. Louis. Doubtless they would agree to commence even at St. Paul, and build the Mississippi valley railroad for us, if the Government would give them a sufficient quantity of land, and they could thereby secure the support of the Missouri and Iowa delegation in Congress. We trust, however, that Missouri will not be entrapped by a scheme so replete with mischief. For ourselves, before we can consent to favor the N. York project, we must be convinced that no practicable route to the Pacific can be found north of El Paso, and be assured, moreover, that the company will not claim or receive dividends on the means invested in the road by the General Government.

We stand upon the same ground which we occupied in 1849: we are the advocates of a NATIONAL ROAD. A road to be constructed by the aid of the General Government. National in its location, and strictly national in respect to the benefits to be derived from it; and the practicable route nearest the center of our territory, other considerations being equal, is, in our opinion, the one best calculated to secure these objects. Nor should the productive capacity of the uninhabited region, traversed by the route, be overlooked by those whose duty it will be to make the location.

We frankly admit that there is much force in the argument of those who insist that a company of individuals can accomplish the work in a shorter time and at less cost than can the General Government. Nor would we insist upon the creation of a corporation by Congress, when a respectable portion of the people hold the opinion that such an act would be constitutional.

We believe that a corporation created by some one of the States with power to build the road by the consent of the States and Territories through which it should pass, would be the most efficient and certain plan of accomplishing the work. Such a company should be prohibited from holding any real estate not necessary for the construction, and convenience of operating the road; and should be limited in its reception of dividends to ten per cent. per annum on the amount actually invested by the corporators. A company incorporated and organized upon these principles should be authorized to receive sixty thousand dollars in money or stock from the General Government for each sum of forty thousand dollars advanced by itself.

This plan, we believe, would ensure the accomplishment of the work in as short a time as a prudent regard to the economy of its construction would authorize. And while the amount appropriated by Congress would ensure remunerating dividends to the stockholders, the limit to their dividends would cheapen the transportation of persons and merchandize, and in this way remunerate the nation for its investment. Indeed, the transportation of the mails, troops and public property, free of charge, may be regarded as a fair remuneration to the Government for the investment of sixty thousand dollars.

But it may be objected that the company would have no inducement to equip and operate the road to a greater extent than would be necessary to enable it to earn the ten per cent. dividend. This objection may be removed by a provision in the charter limiting the charges of transportation, and compelling the company to receive and transport, without delay, all persons who may desire to travel, and all property which may be offered for transportation.

It will be obvious to the intelligent reader, that we have only aimed to sketch the outlines of a plan. Many details will be required which have not been noticed; and it may be found upon examination that those suggested will require modifications. But we feel a strong conviction in the soundness and efficiency of the plan proposed, and are persuaded that it would be regarded with favor, could it be generally and fully discussed before the American people. It is calculated, 1st, to prevent scheming speculators from plundering the public, and enriching themselves out of the property of the nation; 2nd, to separate the Pacific railroad from all political questions, and enable the true friends of the measure to

try it upon its merits; and 3d, to secure to the nation a reasonable pecuniary remuneration for the amount of money appropriated.

Now, if we should be sustained in these views by intelligent and well-judging men, we respectfully ask, why the Pacific railroad company, incorporated by the General Assembly of Missouri, should not make an effort to place itself in a condition to extend its work across the continent? We are aware that its charter does not contain the provisions and limitations contemplated in our plan; but if the plan should meet with sufficient approbation from the public to authorize such a step, the Legislature might be convened for the purpose of amending the charter so as to enable the company to go before Congress with an honest scheme: one that would command the favorable consideration and respect of the nation, and defeat the speculators in railroads, national appropriations and politics.

We give no opinion respecting the practicability of any route which has been suggested. We are content to abide by the reports to be made by men of science, after they shall have made their surveys and estimates. But, in the mean time we propose to keep a watchful eye upon the movements of scheming speculators and trading politicians, and we admonish all true friends of this great work to guard themselves against being led off from the main points by entering into unprofitable discussions respecting routes.

It is a part of the policy of the enemies of a national road to encourage these discussions for the purpose of strengthening the prejudices which already exist between different sections of the country, and to divert the attention of the public from their own schemes.

We reiterate what we have said in another place: we have no ambition to be known as projectors or the originators of new measures. We study and labor for the country, and look for our reward in its prosperity. Hence we claim the right to ask of our readers to give the views we have taken of this important subject a careful examination. The grandeur of the enterprise, and the results to be expected from its accomplishment, are sufficient to awaken the most intense interest in the mind of every individual susceptible of emotions of national pride and patriotism.

A road located on the route proposed by the New York Company, would be totally deficient in many of the elements which

should enter into a national work. It can afford no facilities for the settlement of the extensive region lying between the States and the Pacific ocean. Indeed, the projectors seem studiously to avoid entering upon the territory belonging to the United States; and if their road should be built upon the line contemplated, it will not satisfy the demands of commerce, or the social wants of a large portion of the American people. Consequently, if a practicable route should be found farther north, the Government will be urged and compelled in time to make an appropriation for a second route. This state of things should be guarded against; and may be avoided by the construction of a *great trunk line, to be located as near the center of our own territory as the physical character of the country will admit;* and in favor of such a route we earnestly invoke the co-operation of all who desire to promote the commercial prosperity and moral grandeur of our broad republic.

ARTICLE II.

[From the Mining Magazine.]

Iron and Zinc.

MANUFACTURE OF IRON FROM LAKE SUPERIOR ORES.

To W. J. TENNEY, *Editor of the Mining Magazine.*

I will give you my impressions regarding the iron region and the manufacture of iron from the Lake Superior ores, though I have hitherto avoided giving publicity to opinions opposed as mine have always been to the popular and extravagant statements, that have been spread abroad through the papers on this object.

The Lake Superior iron ores belong to the variety of ores known as *specular iron*—a combination of iron and oxygen, of which the metallic proportion *cannot* exceed by weight seventy-two and a small fraction per centum. *Magnetic iron ore* accompanies the specular, and the two are frequently mixed. The greatest proportion of iron ever obtained from this mixture cannot exceed seventy-five per centum. No reliable analysis of the Lake Superior ores has ever given so high a yield as this. Statements of a greater yield prove their own falsity, and the ignorance of the operator. Such ores are *not peculiar* to the Lake Superior region. They are almost or quite as abundant in Missouri; and similar ores are extensively worked on the shores of Lake Champlain; in Orange co., New York, and in New Jersey. New Hampshire and Georgia, both contain in mountain masses varieties little differing from them.

Some of the Andover ore of New Jersey cannot be distinguished from the choicest of the Lake Superior ores; and if made into bar iron direct, with the same care as were the samples for trial prepared from this ore, there is no question but it would exhibit the same remarkable strength; the pig-iron manufactured from it, though made with anthracite, possesses the strength of the best charcoal iron.

Being very free from earthy matters, these ores are well adapted for working in bloomery fires. They require a preparatory roasting, stamping and screening, by which they are subjected to some loss, and finally yield about a ton of metallic iron to two of ore as taken from the mine. More or less is lost in the cinder, according to the skill of the workmen, the purity of the ores and the adaptedness of the apparatus.

The bloomery process is a convenient one, where the ores are of this rich character, and charcoal is abundant. The charcoal made from the hard maple and birch of this region, is especially well adapted for this process. It is of remarkable soundness and density, owing to the great hardness of the wood. The same cause adds materially, however, to its cost. Each bloomery fire, worked by two bloomers and two ordinary workmen, turns out about a ton of blooms in twenty-four hours. The wages amount to eight dollars, and the consumption of coal, including waste, and all really *paid for*, can seldom be estimated at much less than 300 bushels. Of the charcoal, such as I saw at the works, 250 bushels ought to be enough. The expenses of manufacture may then be estimated as follows:—

Estimated cost of a ton of blooms made on the Lake Shore.

2 tons of ore, quarrying and hauling 12 miles, at $2.....	$4 00
Roasting same, at $1	2 00
Stamping and screening, at 50 cents	1 00
250 bushels Charcoal, at 8 cents (actual cost)	20 00
2 bloomers at $3, 2 helpers at $1, or same amount as by actual contract.....	8 00
Repairs $1, Superintendence $1, Interest $1.....	3 00
General Expenses.....	2 00
Cost on Lake Shore.....	$40 00
Shipping, freight, carting, storage and commission, say...	15 00
Cost when sold at Cleveland.....	$55 00

This cost calculated upon a small operation, with large allowance for transportation, *may be* considerably reduced by running twenty or thirty fires in the same establishment, and by the construction of a rail or plank road from the mines to the Lake shore. But there are several points requiring careful consideration before one could be justified in pronouncing upon the success of such an undertaking. In the first place, no business is so wholly in the hands

of skillful workmen as that of manufacturing blooms. For every ton made in twenty-four hours, two men are required, who have served a regular apprenticeship, and acquired their ability only by long practice. Their places cannot be filled with men picked up any where. The success of the business is dependent wholly upon their skill and good will. Strikes are common among them, and are frequently disastrous to the works. This is especially to be feared in a remote district, shut off a large portion of the year from all communication with other places where this manufacture is carried on. It is probable that this cause, more than any other, has kept back the spread of large bloomeries in New York and New Jersey, and limited the business, with few exceptions, to small works, conducted by the proprietors, who were once bloomers themselves.

Again to carry on a large establishment, powerful machinery is required, and this must be kept in steady running order. But such machinery is liable to accidents and breakages, to repair which recourse must be had to complete machine shops, foundries and large forges. Now these must either be provided at the works, and competent mechanics kept employed at them, or delays of a whole winter may be involved.

Then again, for six or seven months in the year the products of the works are accumulating without a possibility of getting them to market. Opportunities are lost of taking advantage of high prices. The capital lying dead, adds materially to the expenses.

Such considerations as these, together with others arising from the great expenses of introducing and supporting the population required for carrying on this business at Lake Superior, have led me to look with incredulity upon the large estimates of profits to arise so soon from the manufacture of blooms in this region.

Still I am very far from questioning the great value of these rich ores—with few exceptions the only iron ores from the country east of the Alleghanies to the Mississippi River, north of Tennessee, that have been or will be discovered, suitable for the manufacture of the best boiler-plate iron, wire, car-axles, car-wheels, and other work of refined or cast-iron, requiring the greatest strength. The demand for them will be immense. The great Lakes already draw enormous supplies of iron from the eastern portion of the Atlantic States; much of the best of it, after it had passed through the mills at Pittsburg, and been mixed and deteriorated with the poorer western iron; some of its supplies have crossed the Atlantic, and in the state of Scotch pig finds no serious competition in Wisconsin and Illinois, after having passed around a fourth of the circumference of the globe. The Lake Superior mines are destined to change the course of this trade, and supply better iron than is now generally found about the great Lakes. But can this be done by a process which requires the slow labor of four men to make a ton of iron in twenty-four hours, besides all those employed

in the various other departments of the work? For many purposes, iron made direct from the ore will be preferred to that first made into pig-iron and then refined; and the comparatively small quantity so prepared will find a profitable sale in a prosperous state of the iron market. But the great demands of the trade must be met, as they are now, by iron produced from blast furnaces. It is the establishment of these, judiciously located, in connection with large rolling mills, forges, nail factories, &c., that will first really develope the resources of the iron region, and realize the profits that its mines are capable of producing.

To work these ores successfully in the blast furnace, they require mixing with other leaner ores. It may be there are varieties in the same region, that will bring down the percentage of the whole to about 50 of cast iron, and afford the materials (with such limestone as is already discovered in the country, or may be carried there as return freight,) for a fluid-running, glassy cinder—the first requisite in making pig-iron. It is more likely the country below can furnish a better variety of these poorer materials. In the same way the ores of Lake Champlain are now most advantageously worked on the Hudson river, where they meet other primary ores from the Highlands and the hematites of Massachusetts and Connecticut.

By the mixture, made with judgment, the objectionable qualities of one kind are neutralized by the opposite qualities of the others, which by themselves would be equally objectionable.

In this way the poor ores are made profitable, and produce good iron. So the bog ores of lower Michigan and Ohio, and the clay iron-stones of the coal formation may be turned to good account worked with the rich ores of Lake Superior; and according to the different mixtures many desirable varieties of iron may be obtained.

The canal past the Saut once completed, the expense of transporting the ore below to be there smelted, seems to be of little moment in comparison with the expenses and difficulties consequent on the running of blast furnaces in the upper country. These in their present improved construction and heavy machinery, are still more dependent than bloomeries for their uninterrupted running, which is essential to their success, on convenient access to machine shops. This is one reason why they are now more generally found close to large cities, than as formerly in remote districts, near the mines. Here, too, the works are at all times sure of workmen, and the proprietors are not compelled to clear lands, build houses, cultivate farms, and import stock and other supplies for their support. At all times they are under the eye and control of the parties interested. The products of the works are at once in the market, and they are varied to meet the immediate demand. This ability to fill orders is almost as essential for the complete success of blast furnaces as of rolling mills. It is not improbable that the additional cost of transportation of ore (to Detroit for in-

stance), would be more than met by the cheapness of charcoal, which must always be obtained on the shores of the lower lakes. In Baltimore there are seven or eight blast furnaces, all of which are supplied with fuel brought to them from the wooded country around Chesapeake Bay. Lake St. Clair, in this respect, is to Detroit what the Chesapeake is to Baltimore. Wood to both is furnished for about two dollars per cord and no fears need be entertained that the supplies will ever be exhausted. The wood is brought to the furnace dock and charred in kilns containing from fifty to sixty cords each. At two dollars per cord, charcoal will cost, thus prepared, less than six cents per bushel. The vast country supplying the wood keeps up a healthy competition; the supplies are certain, and there is little variation in the prices. To one familiar with charcoal furnaces, and the great difficulty of stocking them, this will present itself as a consideration of the highest importance. It would certainly debar any prudent man from rashly attempting to make pig-iron in the lake country, with its present population.

At all well managed blast furnaces, it is customary to keep a large stock of ore on hand. It is benefitted by lying a year exposed to the weather. There is hence no unnecessary use of capital in getting down during the summer the ore for a year or more, as there is in keeping a winter's stock of iron on hand in the upper country.

Many people have a mistaken notion that the best iron can only be made direct from the ore; others, that charcoal iron made with *cold* blast is the only pig-iron suitable for making the strongest refined iron. Yet the hot-blast iron of the Housatonic valley has always found a good market at the forges where car-axles are made, and it is selected for the bars which Collins orders for his axes, and which, perhaps, are as carefully scrutinized and subjected to as severe tests as iron for any other purposes. And so great are the modern improvements in the manufacture of pig-iron, even that made with *anthracite* from the Andover ores and puddled, produces bar iron little inferior to the best charcoal blooms. There can, therefore, be no reasonable objection to working the Lake Superior ores in charcoal blast furnaces, on the score of their making poorer iron. Though success has not attended the attempts to use our bituminous coals for making pig-iron on a large scale, there is more reason in looking to these as the fuel that will probably be hereafter employed for the reduction of the Lake Superior ores, than now to find fault with charcoal furnaces.

As the iron business is now conducted, the profits of the smaller establishments bear no comparison with those laid out on a liberal scale—supplied with the most thorough machinery, and of the latest and most approved designs. The size of the furnaces has greatly increased the last few years, and the production of some of them has far exceeded in proportion, their increased capacity.

—At Hudson, N. Y., are two anthracite furnaces of 16 feet across the boshes, which make over 180 tons, each one, of pig-iron per week. The manager of these works, C. C. Alger, Esq., has probably produced the greatest results in proportion to their size with these furnaces of any in the world. His success with the Stockbridge charcoal blast furnace, of ten feet bosh, was almost as remarkable, running it repeatedly at the rate of 90 tons per week. The two furnaces of Messrs. Cooper & Hewitt, which are run with the Andover ores, are twenty feet across the boshes, and have produced about 220 tons each per week. These great results are ascribed mostly to a steady and efficient blast, of much greater pressure than has ever before been used.—The machinery to obtain this requires a large outlay of capital. The two furnaces at Hudson complete cost about $175,000, and the other two somewhat over this sum.

Charcoal furnaces would be considerably less expensive, but though it might be expedient to begin with only one or two, an engine or blowing apparatus ought to be provided sufficient for a larger number. The cost of manufacture, supposing there are two furnaces of the most approved construction located at Detroit, should not vary materially from the following estimate, the company being supposed to own the mine, as in the former estimate of the cost of blooms:

Estimated cost of making Charcoal Pig Iron at Detroit, in large blast furnaces, railroad to the mines, and canal built.

1¾ tons of ore at $4	$7 00
130 bushels charcoal at 4 cents	5 20
Flux 50 cents, labor $2	2 50
Repairs 50 cents, superintendence 50 cents	1 00
Interest, general expenses	1 00
	$16 70

Having written already much more than I intended, I will leave it for others to calculate the cost of puddling this iron and rolling it into bars, and to determine the extent and cost of refineries that should be added to the furnaces. One point only of interest I would not fail to call attention to.

On the Island of Elba are found large bodies of ore similar to those of Lake Superior. The furnaces for smelting them are on the opposite shore of Tuscaney. They are small, and of very peculiar construction, different from any other furnaces, but by their extraordinary yield they have proved to be extremely well adapted for smelting this kind of ore.

ON THE USE OF BURNT LIME INSTEAD OF LIMESTONE AS A FLUX IN BLAST-FURNACES. BY E. MONTEFIORE-LEVI AND DR. EMIL SCHMIDT.

The study of the gasses formed in blast-furnaces, with which these authors have been engaged for some years, has shown that the use of carbonate of lime as a flux is attended with great loss,

and likewise that this loss may be obviated by using burnt lime instead. The gases were taken from a blast-furnace, 54 feet high, at Ougrée, at thirty-two places, 1 foot apart, and the percentage of carbonic acid determined.

According to calculation, 8000 kilogrms. carbonic acid require for conversion into carbonic oxide 2173 kilogrms. of carbon, and the quantity of heat developed in the combination of this quantity of carbon with 1 equiv. of oxygen, is 2173·1386=3,011,778 heat units. At the same time, however, these 8000 kilogrms. of carbonic acid are reduced to 5092 kilogrms. of carbonic oxide by the action of the carbon, a change which is accompanied by the absorption of a quantity of heat equal to that developed by the combustion of the latter gas, *i. e.*, 5092·2488=12,667,896 heat units. Consequently, deducting the 3,011,778 heat units developed in the oxidation of carbon from the total number of heat units absorbed in the reduction of carbonic acid to carbonic oxide, there still remains a loss of temperature equal to 9,656,118 heat units, equivalent to the heat developed by the combustion of 1609 kilogrms. of coke.

These considerations led the authors to employ burnt lime in working blast-furnaces, and thus to obviate the loss of heat. The experiment was commenced at Ougrée in July, 1849. During the first few days the results were unsatisfactory, the management of the furnace was difficult, and the slags black and pasty. Subsequently, when taking into account the impurities of ordinary limestone, 63 parts of burnt lime were substituted for 100 parts of limestone: the working of the furnace, until it was let out at the beginning of 1851, was continually regular and good; during these eighteen months the most satisfactory results were obtained. The saving of coke and increase of production were, as the experimenters anticipated, very evident; moreover, the raw iron was of better quality, and all the interior parts of the furnace, especially the tymp stone, remained in a much better state of preservation than when limestone was used. The following table gives the quantities of coke consumed, in the production of 100 kilogrms. raw iron, in the above-mentioned furnace, during the four months before and the four after the alteration of the charging, all other conditions remaining the same:

With limestone.		With burnt lime.	
1849. March	150·0 kilogr.	1849. July	142 kilogr.
April	145·5 "	August	138 "
May	156·5 "	September	133 "
June	151·5 "	October	139 "
Average quantity	153·2 kilogr.	Average quantity	137·75 kilogr.

Average quantity consumed with limestone 153·20 or 100 p. c. coke.
Average quantity consumed with burnt lime 137·75 or 90 p. c. coke.

Difference 15·45 or 10 per cent.

The practical saving is therefore 10 per cent., which corresponds tolerably well with the theoretical result.

The experiment was repeated in 1850, in a second blast-furnace, with the same favorable result of increased production, saving of fuel, and easier working. The following table shows the quantity of coke consumed for every 100 kilogrms. of raw iron, and the production during the first six months, (reckoned at twenty-eight days). The figures in the first column refer to the furnace in which limestone alone was used; the second column to the first-mentioned furnace, in which burnt lime alone was used; and the third column to the second furnace, in which limestone was used for three months, and burnt lime for the next three months. All three furnaces are constructed alike, smelt the same ore, and produce the same kind of iron:

	Quantity of Coke in Kilogr. consumed for 100 Kilog. raw iron.			Reduction during Twenty-eight Days in Kilogrammes.		
	1 With limestone	2 With burnt lime	3 With Limestone	1 With Limestone	2 With Burnt lime	3 With Limestone.
April	165	145	163	436,000	601,000	459,000
May.....	165	147	159	447,000	582,000	461,000
June.....	160	147½	164	477,000	588,000	488,000
			With			With
			Burnt lime			Burnt lime
July	161	146½	149¾	462,000	555,000	537,000
August.....	158¾	145	146	465,000	536,000	552,000
September...	153	147¾	146	477,000	577,000	690,000
Mean	160½	146¼	154⅜	461,000	573,000	516,000
Av.f. AptoJun	....	.....	162	.....	.....	469,000
fr. July to Sep	....	.....	147¼	.....	.....	563,000

The very regular and uniform results given in this table, show that by the use of burnt lime the consumption of coke for every 100 kilogrms. of raw iron was reduced by 14 to 15¼ kilogrms., while at the same time the production of iron increased within a certain period as much as 22 or 24 per cent.

Hitherto the opinion of metallurgists with regard to the use of burnt lime was rather unfavorable than otherwise; but since the above experiments were made at Ougrée, it has been employed with good results in England and Wales, among other places at Abershyne, where the results obtained were still more satisfactory than at Ougrée, inasmuch as the saving of coke affected by this means amounted to 13 kilogrms. for every 100 kilogrms. of limestone which was replaced by 63 kilogrms. of burnt lime.

New lime-kilns have recently been built at Ougrée; burnt lime has been employed there two years and a half, and with uniform results, for which reason the authors recommend its general application, from a thorough conviction of the advantage to be gained. The entire saving, inclusive of the expense of burning the limestone, is stated by them to amount to 30,000 francs annually for each furnace.—[*Zeitschrift des oesterr. Ingenieurvereines*, 1852, p. 145–150. Translated for the Polytechnic Journal.

THE IRON MANUFACTURE OF GREAT BRITAIN.

The produce of the iron manufacture of Great Britain in 1750, was only about 30,000 tons; in 1800 it had increased to 180,000 tons; in 1825 to 600,000; and in 1832 the product of pig-iron was estimated at 2,701,000 tons. This estimate of the yield was made only upon those furnaces in blast, as follows:—

	Furnaces.			Pig Iron.
	In.	Out.	Total.	Tons.
Scotland	113	31	144	775,000
South Wales	135	27	152	635,000
Ditto Anthracite	12	23	35	31,000
South Staffordshire	127	32	159	725,000
North Staffordshire	17	4	21	90,000
North Wales	6	7	13	30,000
Shropshire	27	13	40	120,000
Durham	18	8	26	110,000
Northumberland	7	6	13	35,000
Yorkshire and Derbyshire	35	7	42	150,000
Total	497	158	645	2,701,000

The shipments of pig iron from Scotland to the United States for the last seven years, have been as follows:—

1846	13,918 tons	1850	57,509 tons
1847	44,994 "	1851	80,019 "
1848	90,235 "	1852	100,700 "
1849	94,212 "		

The shipments of manufactured iron from Liverpool to New-York, Boston and Philadelphia during the last seven years, have been as follows:—

	Rails. Tons.	Bars, &c. Tons.	Hoops, &c. Tons.	Total. Tons.
1846	12,514	12,807	1,686	27,007
1847	12,635	37,543	7,195	57,373
1848	50,188	33,621	7,237	94,046
1849	33,849	57,136	13,203	104,187
1850	29,808	66,338	19,486	115,632
1851	78,199	64,301	19,293	161,793
1852	74,468	72,064	22,196	168,728

Of which during the year 1852, New York received 135,290 tons, Boston 24,414 tons, and Philadelphia the balance.

MANUFACTURE OF WROUGHT-IRON DIRECT FROM THE ORE.

A brief report was made in the last number of the *Mining Magazine* (Vol. I. No. 2) respecting the establishment of Messrs. Davis of Cincinnati, for the manufacture of wrought-iron direct from the ore. The process adopted is that of James Renton, of Newark, New Jersey. The ore is taken in its raw state, and after being stamped, and prepared by an admixture of carbon, it is put in a series of close tubes, placed in a chamber, the outer surface of the tubes being exposed to the waste heat of the furnace for several hours, when it is sufficiently deoxydized. It is then discharged, as required, into the furnace, where it is readily worked up into balls weighing about one hundred pounds, and taken to

the hammer, averaging two balls every hour. The process is continuous and uniform.

A company with a large capital has been successfully carrying on this process at Newark for a considerable time. Their iron has been introduced for manufactures, and with high commendation. We have seen their works in operation.

The cheapness of the process is worthy of attention. The following is a statement of the cost of a ton of blooms at Newark, with one furnace:—

From two to two and a half tons of ore, at $4 ..	$10 00
One and a half tons of coal, at $4,25.....	6 38
Puddling and welding, per ton	5 00
Hammering.....	1 50
Labor.....	3 00
Coal for carbon.....	1 25
Half ton of coal for engine. at $4.....	2 00
Making the cost of a ton of blooms about.....	$29 63

Any description of fuel—wood or coal, both anthracite and bituminous, can be employed for heating the furnace, and with nearly equal advantage.

Article III.

Address of John H. Lathrop, LL. D., Chancellor of the University of Wisconsin, before the State Agricultural Society.

Mr. President, and Gentlemen of the State Agricultural Society:

The extreme division of labor and of employments, concerned in the production of material wealth, by reason of which a greatly multiplied population is sustained at a far more elevated standard of enjoyment and of culture, both of body and of mind, is the distinction of modern civilization.

Indeed, all civilization implies a departure from the personal isolation and independence of the purely savage state—it implies social arrangement and classification, fitted more or less discreetly to the production of proposed social ends; be those ends political or economical—and the character as well as the permanence of the system, depends, ultimately and properly, on the adaptation of its arrangements to the real and permanent wants of men—on the wisdom of its means, and the benevolence of its ends.

In most of the ancient forms of civilization, the artificial arrangements of society were for the benefit of a governing body, who wielded the civil power, and directed the military arm of the State, while the labor which sustained the whole, was fixed in its position at the base of the social pyramid, by the hereditary disabilities of caste; or under the more crushing weight of territorial serfdom, or of domestic servitude.

Under social conditions like these, which divorced the intellect of the State from its productive arm, there is no ground for surprise at the brilliant results wrought out by the governing mind, in an Egyptian, a Greek, or a Roman civilization.

We might expect to see, as we do see, the Fine Arts approximating towards the perfect ideal of the beautiful and the grand—the breathing marble, the column with its lofty capital, surmounted by the dome and the arch.

It is not strange that the free intellect of the happily born should have luxuriated in the attractive field of the liberal sciences, guiltless of any intended bearings on the useful or the practical; that geometry and astronomy had their votaries; that music, statuary and painting had their triumphs; that a literature should have sprung into being, recording the utterings of the genius of history, the inspirations of the poetic muse; and the profounder, though scarcely less imaginative speculations, of a metaphysical philosophy.

It is not strange that eloquence should have poured its full tide from the Bema and the Rostrum—or that "the pride, the pomp and circumstance of glorious war," should have fired many a gifted mind with the strange ambition, to swell the catalogues of those who have lived only to desolate and to destroy.

But while the Liberal Arts were thus expanding into being through the irrepressible energy of the free and the governing mind, unincumbered, as it was, by the burden of productive toil; the USEFUL ARTS, inspired by no such living energy, abandoned to the practice of those whose adequate qualification was deemed to be the strong arm, the bowed and submissive spirit, and the unfurnished head, were destined to no corresponding development.

Roman history hands down to us, indeed, one Cincinnatus, who soiled his patrician fingers with the touch of the plough—but, though careful to record his military glories, fails to inform us that Agriculture was at all benefitted by the contact. In the light of the present age, I am afraid we must set down the fabled Triptolemus as a very poor farmer; the Cyclops as indifferent blacksmiths; and even Dædalus himself, not very much of a mechanic.

Under such conditions of the social system, political and economical, was constructed that high wall and deep ditch, which for long centuries of duration, and through various phases of society, continued to separate, broadly and invidiously, the Liberal from the Useful Arts—and I need not add that the traces of this discrimination are not yet obliterated. There lingers in our midst even yet, such a thing as professional pride; as traditional disdain of the industrial avocations—the tattered remains of that robe of disparagement, which once shrouded the manly form, and embarrassed the strong arm of brown industry.

But it is the glory of modern civilization, that its tendency is to exalt every social valley; to bring down from its pride of elevation, every mountain of privilege; to demolish every wall of partition between the Liberal and Useful Arts: to shed the light of Science on the industrial processes, and to bring all the honest avocations of men, productive of social and individual good, into harmonious and efficient action. It proposes, ultimately and for ever, to do away with every social distinction dependent on birth, class, or employment—and while it will multiply incalculably the aggregate amount of good wrought out by the improved mechanism of human society, it proposes to throw the good thus elaborated open to equal and honorable competition; and to make the share each may vindicate to himself to depend, not as under the older forms of civilization, on the birth, rank, or calling of the individual, but on his personal character, and personal merit—on his precise individual value in the social system.

In order to fix the destined position, the value, and the duties of the AGRICULTURIST, in the economy of society, it will be needful to glance at the interior mechanism of modern civilization.

"In the sweat of thy face shalt thou eat thy bread," is the Scriptural annunciation of the great law of humanity, that LABOR is necessary to the acquisition and enjoyment of physical, intellectual, or moral good.

The resulting good, however, depends on the degree of wisdom with which human industry is directed.

The earth is capable of sustaining but a sparse population, and that at a low standard of physical comfort, as well as of intellectual and moral culture, where the labor of each individual is directed to the supply of precisely those articles, and those only, which meet his own wants.

In the aspects of modern civilization, on the other hand, as has been already hinted, nothing is more characteristic than the very dense population which the earth is able to sustain, at a vastly more exalted standard of physical comfort, and a still higher standard of intellectual and moral cultivation; and nothing is more essential to the introduction of those invaluable results, than that DIVISION OF LABOR AND OF EMPLOYMENTS, which we observe to obtain in all civilized com-

munities, with a minuteness and distinctness, corresponding exactly with the type and the degree of the civilization which there prevails.

In the production of material wealth, in its thousand departments, AGRICULTURAL and MANUFACTURING, by confining skilled labor to its habitual and well known processes, the aggregate product of human industry destined to the supply of human wants, is increased beyond calculation, and time is saved, and means furnished to the individual, for the purposes of intellectual, moral and social improvement.

But, again; the division of employments in the various departments of the Agricultural and Mechanic Arts, begets the necessity of EXCHANGE—and if each producer were bound to effect his own exchanges, at home and abroad, a large portion of his time and means would be consumed, and a large amount be thus substracted from the aggregate production of the community.

By separating, then, the business of exchanges from the business of production—by setting up the class of merchants—the producer is no longer withdrawn from the creation of values—the increase in the aggregate production of the community pays, in the shape of commercial profits, for the skilled labor of the mercantile profession—leaving a balance in the hands of producers far exceeding their whole production, provided they turn aside to act the merchant for themselves—the physical wants of all are better supplied, and time and means are furnished for an advanced stage of intellectual and moral cultivation.

But our economical analysis of society may be carried still further. In order to the greatest aggregate production of physical values, the health of the producing and the exchanging classes, including all ages and conditions, must be provided for, and thus a demand is created for skilled labor in the HEALING ART. But if each individual were bound to acquire this skill for himself, and to seek out and compound his own simples, production must be suspended the while; the skill comes too late; the race is dying out, not only of disease, but of starvation. It is sound economy, therefore, to sustain a medical profession, as a distinct and independent employment—for the consequent enlargement of the aggregate wealth of the community, will pay the charges of the profession, leaving the producer with ampler means, and sounder health, and unbroken time, to provide, not only for the gratification of his physical wants, but also for the more exalted purposes of his being.

But, again; it is essential to the progress of a community in physical wealth, and other forms of social well-being, that the rights of men in the civil state, should be ascertained, declared, defended, and vindicated; and the call for skilled labor in this department must be met, or the law of the strongest will prevail; violence will take the place of social order, and civilization is at an end.

Shall this call for skilled labor in the LAW, be met by each producer for himself? Or is it sound economy that he should meet it by Attorney? That a profession of those learned in the law should be sustained, to do that service which the individual cannot do for himself without ruinous neglect of the processes of production and exchange? Civilization and economy return their united answer, that the Bar must be sustained as a distinct and independent profession.

Again; that righteousness exalteth a nation, is the scriptural anunnciation of the general principle, that the sentiments of reciprocity and benevolence, pervading the common mind, constitute the broad and deep foundation on which reposes the structure of civil society. The sentiment of justice, pervading the common mind, gives to beneficent legislation its vitality and its strength: it lies at the foundation of the right of property: without it, production and accumulation are at an end, and civilization is but an empty name.

How divinely then is the PULPIT adapted to imbue the common mind with that righteousness which exalteth a nation. It inculcates a perfect rule of life, the fountain of all just legislation; and what is vastly more important, it enforces that rule, not like the human legislator, by sanctions drawn from this present life only, but by those which respect our immortal being, our relations to GOD, the Judge of all, and to the community of spiritual intelligence throughout eternal ages—the sanctions, namely, of the Christian faith, without which, as the experience of man, in all ages has shown, the best constituted and most perfectly balanced social structures have tended uniformly to decay and dissolution.

These ministrations of the pulpit require skilled labor. Sound policy and sound economy therefore demand that these ministrations be committed to the clergy, as a distinct and independent profession. Give thyself *wholly* to these things, is the apostolic injunction.

Such is a very brief analysis of the economy of civilized society, as we now see it.

The producing classes, throughout the various subdivisions of the agricultural and mechanic arts, create all the values destined to the supply of the physical wants, and to the gratification of the tastes of the whole community.

The mercantile classes produce nothing; but by transfer and exchange make such a disposition of existing products, as to benefit producers, to enlarge the volume of production, and minister to the well being of all.

The professions, strictly so called, terminate their industrial processes, not on physical products, but on those conditions of society, which give to producing and exchanging agents the power and the disposition to contribute in the highest degree to the general good, and to their own profit, through the more efficient and beneficial action of the various industrial agencies. The results of professional labor, are the *health*, the *order*, and the *morality* of the community.

But there is another element in modern civilization, which our analysis has not yet reached, whose office it is to qualify, and mould and fashion all the rest —I mean the great work of FREE and UNIVERSAL EDUCATION.

The agency of the educator terminates not on physical products, nor yet directly on social conditions, but on the MAN HIMSELF. His raw material is the young mind, the unformed intellect of the community. His resulting product is the finished man, prepared by varied knowledge and intellectual discipline, to act well his part, as an agriculturist, as an artizan, as a merchant, as a physician, as a lawyer, as a divine; to be useful in the varied relations of private life; useful in the civil state, and in those more exalted relations, which concern him as a member of the human family, and a subject of the universal empire of GOD.

It is quite obvious, then, that the educator, whether of the school or the press, stands at the point of power, and applies the moving force to the mechanism of human society. For the successful action of this mechanism, intelligence is necessary at every point—on the farm, in the manufactory, in the counting-house, in the practice of the healing art, at the bar, and in the sacred desk.

There is not a single employment, within the scope of our economical analysis of society, whose results would not be rendered, by an increase of intelligence, more beneficial to the community, and more honorable and profitable to the industrial agents concerned in it. Reason teaches us, that the communities which are the better educated at every point, must be the more wealthy, the more powerful, as well as the more respectable.

The experience of the civilized world abundantly verifies this conclusion. We see that the more intelligent the industrial agents, the more ample and valuable the resulting production, throughout the whole economy of society.

The way is now prepared, to state with more distinctness, the nature, position, and office-work of AGRICULTURE in the social economy.

In the beginning, man was alone with Nature. Without arts, without capital, without implements, he took his sustenance from the bosom of the earth, as the common mother of the race.

Agriculture, in the most restricted signification of the term, implies a departure from this condition. Man was sent into the world with a commission, not merely to share with his fellow animals, the spontaneous productions of nature, but with a charge to search out the physical elements, to determine their capabilities—to make the needful combinations—to bring into action their productive powers, not only to supply the animal wants, and minister to the pleasures of his organic nature, but to render them tributary to his intellectual, moral, and social development, and his ultimate spiritual elevation and well being.

In the discharge of this great commission, every avocation of man has its work to perform. It is the province of Agriculture to begin the process, by the tilling of the ground, as the term imports—by stimulating and guiding the productive energies of the physical elements to results infinitely transcending, in quantity and quality, the yield of these same elements, unaided by human agency.

The gross results of Agriculture constitute, what, in the language of economy, is denominated *raw material;* and they are so called, precisely because, with almost the single exception of fruits and green vegetables, material products do not come from the hands of the agriculturist, prepared for human use. They are gross and incomplete, the proper material which the Arts are to take, and to mould and fashion into forms of utility and beauty, adapted in the finished state, to the satisfaction of the physical wants, and the gratification of the tastes of men.

In the three great classes of our physical wants, food, clothing, and shelter, few indeed are the commodities which come from the hands of the Agriculturist ready for the consumer!

Men want not wheat, but bread—therefore the CROP, as raw material, must be subjected to the manufacturing processes of the miller and the baker.

Men want not wool, but clothes—therefore the fleece must undergo successive changes, in the hands of the carder, the spinner, the weaver, the fuller, and the dyer, before it reappears in the form of cloth. And what does the cloth avail, till the tailor, with his divine art, finishes—the man.

So men want not timber or stone, but houses, barns, ships, temples of education, and temples of religion; and here, again, the yield of the Agriculturist must be subjected to the almost numberless manufacturing processes, of masonry and architecture.

It is obvious to remark, therefore, that it is the distinction of Agriculture, that it furnishes the material for all the manufacturing and exchanging processes —that there is nothing in the hands of the Artizan, or the Merchant, that has not been in the hands of the Farmer. Agriculture thus lies at the foundation of the economical structure of society.

But it is entirely proper here, to submit the caution, that too much of relative dignity and importance must not be assumed to Agriculture, in consequence of this distinction. To him who enjoys the final product, the initial, the medial, and the finishing processes, are all equally important.

It is true, that without the raw material furnished by the Agriculturist, the occupation of the Artizan, and the Merchant, is gone for ever. But without the processes of art and of exchange, without the Merchant and the Artizan, what would be the value of the raw material? Would it be produced at all? It is true, that the structure cannot stand without the foundation. But what is the value of the foundation, if no superstructure is to be erected upon it? Would the foundation be laid at all?

It is no disparagement to Agriculture, that it cannot say to Manufacture, I have no need of thee. It is no disparagement to both, that they cannot say to Commerce, We have no need of thee. Neither is it any disparagement of these three great industrial interests of society, that they cannot say to the Professions, We have no need of you. Nor yet, does it disparage all these—aye, it ennobles them all—that they cannot say to Education, We have no need of thee.

The truth is, we are members, one of another, with mutual uses and dependencies. As in the natural body, so there is a divine harmony running through the whole structure of the body economical. One member cannot suffer without all the other members suffer with it.

But to elaborate this thought more thoroughly and minutely:

I. Agriculture is interested in the prosperity and improvement of the manufacturing interest throughout the whole circle of the Useful Arts:

In the first place, manufacture takes the raw material of Agriculture, and Agriculture takes in return the perfected product of manufacture. A commercial process may intervene: but the essence of the whole transaction between Agriculture and Manufacture is, when completed, a barter of the products of the one for the products of the other. The existence of the Arts, creates a demand for the products of the farm. Were all men agriculturists, the market would disappear, and the surplus of the farmer would lose its exchangeable value. As the number and the prosperity of those interested in the manufacturing and mechanic arts increases, the demand enlarges, and remunerating prices of Agricultural products reward the industry and skill of the farmer.

But not only does the farmer thus secure the advantage of an intenser demand for his own surplus, but the prosperity of the Arts is attended with new applications of Science, the introduction of new machinery, the more minute and methodical division of labor, and a greatly increased facility and skill in the executive processes. All this works a saving in the cost of production, and a diminution of the price of the manufactured article to the Agricultural consumer. The prosperity of the Arts, therefore, works a double advantage to the farmer in the intenser demand for his own surplus, and a greatly enlarged reward in the shape of finished products, which he is able to command in return for it—in the enhanced value of the raw material on the one hand, and the reduced price of the perfected article on the other.

But again, the progress of discovery and improvement in the Arts, and the increased demand for raw material, is sure to regenerate Agriculture itself, by

prompting to a broader and deeper cultivation, by the introduction of new articles of produce; by stimulating to the adoption of more approved processes, and to new combinations of the physical elements—to a more judicious division and methodical arrangement of the different departments of field labor, to greater facility and skill in all the executive operations, and finally to the habitual improvement of Agricultural implements, from the most simple to the most complicated, until the farm comes to vie with the shop itself, in the number of its inventions, and the perfection and productive power of its mechanism.

It is in perfect accordance with these views, that England, transcending all other nations in the variety and perfection of her Arts, is unrivalled in her Agriculture. It is an equally apt illustration of the truth of our doctrine, that Poland, an annual exporter of grain, but without Arts, is the poorest country of Europe.

In the early settlement of wild tracts of the earth's surface, by the aggressive march of civilisation, Agriculture is not only the dominant interest, but from the nature of the case, it may be said to be almost the only interest.

In such conditions, it has not unfrequently happened, that the Agricultural habit and sentiment have been so exclusively and intensely cherished, as to amount to a sort of economical bigotry, scarcely tolerant of the introduction of a disturbing social element, in the form of Manufactures and the Arts. Some of the planting States of this Union have hugged themselves into poverty, while sneering at the "lords of the power loom and the spinning jenny."

Georgia, the banner State of the South, is nobly redeeming herself from the thraldom of this sentiment. The loom and the spindle have already brought her into honorable competition with the industrial agencies of the North, and are awakening her AGRICULTURE to an energy and a thrift, which follow only in the train of Art.

Let me say, then, to the Farmers of Wisconsin, whose voice is potential in the councils of the State, that they can confer no greater boon on Agriculture, than to invite the Arts in all their variety, to come and make their permanent abode in our midst. By a system of liberal, just, and wise legislation, affording facilities for permanent investment, closing the avenues to fraud, and enforcing rigidly the performance of contracts, manufacturing capital will be induced to break away from its moorings abroad, and come and cast anchor, without distrust, upon our shores.

Agriculture could do nothing more suicidal, nothing more calculated to retard the growth and maturity of Wisconsin, than to countenance that narrow policy which would deny to capital, on our own ground, that facility of combination and that permanance of arrangement, which long experience, elsewhere, has demonstrated to be needful to the full and profitable development of the useful Arts.

II. The proposition next in order, in the discussion of this part of the subject, is, that Agriculture, in common with the Arts, is interested in the prosperity of Commerce.

It is a fact easily apprehended, that all the items of physical wealth, that is, all produced values, are the results of Agricultural and Manufacturing agency. Agriculture and Manufacture cover the whole ground of the production of values.

But the extreme division of labor and of employments, the secret of the stupendous production of modern times, begets the necessity of an extended system of *exchanges*, for the mutual benefit of the producers: and owing to the different and sometimes distant localities of production, *transportation* for the most part precedes exchange.

To effect this transportation and exchange—to take commodities from the hands of the producer, and place them in the hands of the consumer—is the precise office work of Commerce. Of the whole produced value of Agriculture and Manufacture, Commerce then, must take to itself that share which is, on an average, a fair remuneration for this service; leaving in the hands of producers a balance far exceeding in amount and value their whole production, provided the produders were obliged to effect transportation and exchanges for themselves.

But, although on the principle of the division of labor and of employments, the setting up of the mercantile class, thus re-acts upon production, enlarging its volume, and enriching the producers themselves; still, it is an ultimate and fixed fact, which ought to be distinctly understood, that Commerce is a CHARGE on Agriculture and Manufacture—that the whole cost of the commercial machinery

must withdraw just so much of the gross value produced, from the hands of the producer.

If the commercial processes be clumsily and expensively performed, the producer suffers; he retains less of his value produced, and is so far forth less prosperous.

If the commercial processes be skilfully, expeditiously and cheaply performed, the producer has the benefit of it; he retains more of his value produced, and is so far forth more prosperous.

The manifest inference is, that the Farmer is interested in every improvement of the commercial processes, which will diminish the expenses of transportation and exchange—as truly so as he is in those improvements in manufacture which diminish the cost of production.

The improvements in ocean navigation, costly as the steamship is, by cheapening freights, are enriching producers on both sides of the Atlantic.

The immense array of steamboats which float upon our inland waters, as a part of the machinery of our internal trade, with their frequent loss, and destruction of property, would seem to constitute an enormous charge upon the industrial interests of the country.

But to banish steam from our lakes and rivers, and to return to the raft and flat boat, and other forms of the time consuming, and labor consuming navigation of the last half century, would be to impoverish and desolate the interior—for the simple reason that the enormous amount of our present lake and river trade, far transcending our foreign commerce, could not be carried by a craft like that of the past generation, without a tenfold expenditure of time, labor and money—and at whose charge? At the charge of the producer.

If the produce of the Farmer should go forward to market, the compensation of the commercial agency would absorb the whole value, leaving no balance for the producer. If the manufactured commodities necessary to meet the wants of civilized men, were brought into the interior from the commercial mart, they would come to the cultivator of the ground at a price which would place them essentially beyond his reach.

It is obvious enough, that under such conditions, production and trade would fall together, and a greatly reduced standard of enjoyment and civilization would prevail throughout a sparsely populated interior.

Without the steamboat, what would have been the condition of the great basin of the St. Lawrence, and of the great valley of the Mississippi, on this very day? Well assured am I, that the last track of the moccasin would not have disappeared from the ground where we are now standing, surrounded by the emblems and the garniture of civilization.

Again; canals and railroads, constitute now, a great part of the commercial machinery of modern civilization, transporting a large and annually increasing portion of the travel and the merchandize of the whole country.

When we contemplate the vast extent of this net-work of internal improvement, the stupendous expense of the construction, and the corresponding outlay for the motive power, for the boat and car; and the more especially, when we sum up into one great aggregate, the annual receipts of the system, of which aggregate the Erie canal alone furnishes a yearly item of more than $3,000,000, well may we wonder at the miracle, that the shoulders of Agriculture and Manufacture are broad enough to sustain, uncrushed and unbent, the whole burden of the charge.

And yet they do sustain it. Not a dollar of freight goes into the treasury of these improvements, which is not taken from the produced values of those who are ultimately the mutual parties interested in the exchange, and in the consumption of the commodities transported. The gross values of the producer are diminished, aye, *taxed*, if you please, to this amount—and the farmer pays his portion of the TAX. But is he oppressed by it?

If the farmer of Western New York thinks so, let him by all means eschew the canal and the railroad—he is under no compulsion to use them—let him call up from an unbroken slumber of a quarter of a century, the teaming gear of his older brother; let him haul his agricultural surplus to the good old Albany of his brother's recollection, and his domestic stores back again to his home; and let him, on the next rainy day, sit down and reckon up his savings. How will his tax account stand then? Why, gentlemen, the penny wisdom and pound folly of such a farmer, would be the scoff and the jeer of his neighborhood.

And what shall we say of the economy and thrift of a State, which, by constitutional provisions incapacitates itself from fostering, encouraging, and aiding works of the most manifest utility, and of the very greatest importance to the prosperity of the farmer—and by its jurisprudence and general course of policy, so relaxes the obligation of contracts, as to render foreign capital too distrustful of individual and company securities to answer the loud call of the suffering producers, "come over and help us."

The permanent economical benefit of the canal and railroad to the farmer, is three fold :—1. In consequence of the reduction of freight, his produce is worth more on his farm.—2. The merchandize which he needs costs less at his own door, for the same reason.—And 3. Because the commercial agency thus takes away a smaller portion of his produced values, leaving a larger balance in his hands, he is affected precisely as if his land had become more productive; therefore his real estate rises in value.

The importance of this last item of advantage may be illustrated by a single case. The Erie canal cost originally $10,000,000. A rise of two dollars per acre, throughout a border of both banks of the canal, thirteen miles wide, would cover the whole cost of construction!—and where is the acre of feasible land within those limits, which is not worth, to-day, five, ten, fifteen, perhaps twenty dollars more, than if the work were undone?

Perhaps you will say, if this be so, the farmers of New York could have afforded to construct the canal themselves.—And so they might. But had they the needful information? Had they the unanimity, the confidence, the courage, the capital, or the credit to command the capital? Could any voluntary company have been formed, with the adequate courage, and capital and credit, to grapple successfully with the gigantic difficulties of the work?

No, Gentlemen,—had not the energies—the capital—and the credit of the STATE, been enlisted and consecrated, in trembling hope, to the accomplishment of the then unparalleled enterprise, it would have remained probably unattempted, certainly unaccomplished, down to the present day.

And it was the genius of CLINTON, that inspired this trembling hope—that nursed it into firm resolve—that bore aloft that firm resolve, high above the opposition of the trading politician, the scoff of the blasphemer, and the ridicule of the sceptic, to a magnificent and triumphant completion. While thus engraving his own memorial, in a long line of glory, on the soil of his native State, he was making his mark on the age. The power of his great example was felt throughout the length and breadth of the land. The din of improvement, in its progress, has been extending from State to State, awakening Agriculture to a new life and a new thrift, till there is scarce a hill top in our country, whose horizon does not bear some testimony to the beneficence of the far-reaching policy of Clinton, and whose weary industry has not been cheered and refreshed by the shadow of his great name.

But who will say that the Erie and Champlain canals were more important to the trade of New York and the great basin of the St. Lawrence, in 1816, than the Milwaukee and Mississippi, and the Rock River railroads are, at this moment, to the trade of Wisconsin and of the vallies of the Upper Mississippi, the Upper Missouri, and the Red River of the North.

And who will say that what was wisdom in New York then, would be folly in Wisconsin now? Where, then, is the Clinton of Wisconsin? And do the barriers of your constitution send back a cheerless echo to the voice of your inquiry?

Farmers of Wisconsin! you CANNOT AFFORD to let these great enterprises languish and die. If private credit cannot SEASONABLY build the roads, public credit can. Your potential voice makes the laws; it makes constitutions—aye, and unmakes them too. I do not say that you can find a Clinton—such a man is God's benison on an age—but you have the roads. Where there is an IRON WILL, there is an IRON WAY!

But again; Agriculture is not only interested in the reduction of the cost of the *transportation* of commodities, but is equally so in cheapening that other operation of commerce denoted by the term of *exchange*.

The most obvious mode of effecting exchanges is, of course, by the direct barter of the one commodity for the other. But one difficulty in the way of barter as a system of exchanges is, that commodities or products, are not mutually and universally receivable.

For example, the shoemaker wants a coat, but the tailor does not want shoes. Perhaps the shoes may be bartered for hats, but the tailor does not want hats.—Perhaps the shoes may be bartered for corn, but the tailor does not want corn. And there is no predicting the number of exchanges, and the waste of time necessary to enable the shoemaker to find some commodity which he can barter for the cost.

The difficulty lies in bringing together parties who will be mutually benefitted by the barter. And this difficulty becomes aggravated by every step of advancement in the division of labor and of employments.

Barter, then, is obviously compatible, only with a low state of civilization, and the necessity is early suggested, of providing some commodity which shall be universally receivable, which the producer may obtain, directly, for his surplus, and with which he may obtain directly, the commodity which he needs; and thus enable him to remedy the difficulty in question and diminish the expense of barter. Such a commodity is MONEY—it is universally receivable.

There is another difficulty with respect to barter, which requires to be stated, in this connexion; that, namely, of adjusting to each other the values to be exchanged. The farmer, for example, takes his horse to market, desirous of receiving in return various articles of smaller value, in the hands of different individuals. As the horse cannot, from the nature of the case, be bartered, a part here, and a part there, the series of transactions is altogether impracticable.

The commodity money, then, in order to do away with the inconveniences and the impossibilities of barter, must, in addition to the fact of being universally receivable, be capable of division and subdivision, so as to adjust it to all possible values.

Gold and Silver coin embodying these two qualities of universal receivability, and divisibility at will, has been adopted, by common consent, and the action of civil governments, as the money of the commercial world; and is as distinctly a *part of the machinery of commerce*, as is the railroad or the steamboat.

It is the office of the railroad, to facilitate and cheapen transportation, and this constitutes its whole value as a railroad; so it is the office of coined money to facilitate and cheapen exchanges, and this constitutes its whole value as money. Were barter entirely convenient and economical, money would have no office to perform—no necessity would have suggested its creation—its presence in the business of the world be without meaning—it would never have been thought of.

But when we consider that the exchanges of this country require a currency of some $300,000,000, and that the annual charge for this expensive commercial agent is the yearly interest of this sum. with the addition of the annual cost of the coinage, the loss by wear, by shipwreck and otherwise, well may it be asked again, are the shoulders of Agriculture and Manufacture broad enough to sustain the burden of this charge.

The answer is at hand: they certainly do sustain it—and that, with incalculable advantage and profit to the producer. For the simple reason that money, although itself an expensive agent, so facilitates and cheapens exchanges, as to relieve agriculture and manufacture from the far greater cost of making those same exchanges through the time consuming and labor consuming processes of barter.

The cost of the medium is, if you please, a *tax* on the producers of value, and the farmer pays his portion of the tax—but he finds a manifold compensation, in the relief from the incalculably greater tax, which the system of barter would entail upon him.

Enough has now been said on the part that money plays in the phenomena of commercial exchanges, to prepare the way for the proper understanding the assertion, that the farmers of Wisconsin, as well as the farmers every where, are deeply interested in setting up and maintaining that form of the circulating medium which will work the greatest reduction of the cost of the whole commercial machinery, and all the operations of trade.

Metallic money facilitates exchanges, obviates the inconveniences of barter, and cheapens the commercial processes; it is sound economy, therefore, for producers to introduce and maintain a large and costly volume of metallic money.

If a currency of representative values will facilitate exchanges in a still higher degree, will obviate the inconveniencs of metallic money, and cheapen still further the commercial processes, it will be equally good economy for producers

to set up, for the use of commerce, a currency of representative values, with all the safeguards suggested by the experience of the past.

And this brings us to the precise question to be submitted, at the coming election, to the people of Wisconsin—a question, of no trifling interest to the farmers of the State.

If it be true, that the merchant can serve you more economically with a currency of representative values, than with the agency of metallic money, then, if you compel the merchant to use the latter, he must idemnify himself by paying less for your produce, and charging more for the merchandize he sells you. If you allow him the use of the former, he will be able to pay you more for your produce, and will charge less for merchandize.

If this be so, the policy that would send you back from a currency of convertible paper, to a pure metallic circulation, would send you back from the railroad to the turnpike, and from the steamboat to the sloop, or the flat boat. Do you say that the paper currency has its risks and its losses?—so has the steamboat.

The inquiry which lies at the bottom of all these cases is, whether the alleged improvement does, or does not, in point of fact, after allowing for all its unavoidable imperfections, work a diminution of the cost of the commercial machinery. If it does, the saving enures to the benefit of the producer, just as surely as a stone in mid air falls to the ground—and the farmer has his full share of the benefit.

As the time and occasion do not permit me to state my views, fully, on the currency question here presented, I shall not enter upon its discussion at all. I only present the naked point on which the whole question turns, and leave the decision where the Constitution leaves it—with the people.

Farmers of Wisconsin! On the question of authorizing the issue, within the State, of a currency of representative values, if you believe that the introduction of the proposed system with the proper safeguards will facilitate and cheapen the processes of trade, and thus enable you to do your whole commercial business at less cost to yourselves, you will, at the approaching election say AYE—if you do not believe this, you will say NAY. It is a question of great import to Wisconsin. God grant that you may decide the question wisely.

But again, Agriculture is interested in the growth and prosperity of large towns.

A town or city may be regarded, philosophically, as a part of the business machinery of the country. It is, in part, a manufacturing agent, and in part a commercial agent. In both these capacities, it enjoys such a concentration of capital, enterprize, and intelligence, as to ensure the economical advantages of a minute division of labor, the perfection of the executive processes, and all the helps attendant on the invention and skillful use of machinery.

All these larger operations of manufacture and trade are carried on at immense advantage over the smaller; but if the laws favor the association of the smaller capitalists by general acts of incorporation, there is no danger of monopoly. The principle of competition is more active in the large town, and the consumer will have the benefit of the diminution of the cost of the manufactured article, and of merchandize generally.

For this consumption, however, without which the large town cannot exist, it looks to the country, that is, in the main, to the agricultural producer. The town and the country are mutually markets to each other, and the *citizen* is as much interested to penetrate the interior with canals and railroads, as the *farmer* is to find these avenues for the transportation of his produce to the mart. We present interests here that are not antagonistical, but are mutual and harmonious. The town thrives by the growth and prosperity of the country, and the country by the growth and prosperity of the town.

All this is manifest—and yet it is no more strange than true that in some agricultural communities, there has sprung up a narrow jealousy of the town, grudging its prosperity, ripening into settled hostility—tainting, perhaps, the legislation of the State, by unequal taxation, and by denial of those facilities of production and trade, which are essential to the healthy development of the town.

Farmers of Wisconsin! the towns which line your borders, and dot the interior, live not for themselves alone, but for you—they grow with your growth—they are your credit abroad, and your profit at home. An enlightened self interest, on your part, demands that your policy towards them shall be conceived in a liberal and comprehensive spirit.

The railroad is a swift witness of the identity of the reciprocal interests of town and country. It brings the rural districts under the very gates of the city; and it lodges the merchant and artizan at home, scores of miles, perhaps, from the scene of his daily toil. This indefinite expansion of towns, with their capital, intelligence and enterprise—this amalgamation, as it were, of the city and the country, is destined to play, henceforth, a distinguished part in the advancement of civilization.

III. But once more. Agriculture in common with Manufactures and Commerce, is interested in the prosperity of the Professions.

It is conceded that the sustaining of the professions is a charge on the producers of value.—But it is also to be conceded, that without the agency of the professions—without the sound social conditions of HEALTH, ORDER and MORALITY, production would be at an end. So much for the mere economical argument.

But when we consider the intrinsic importance of these social conditions themselves, we can hardly over-estimate the obligations of productive agency to professional service. Here, as in the arts and in commerce, "Live and let live," is a maxim addressed not so much to the magnanimity and generosity, as to the economical and social interest of the cultivators of the ground.

But without extending our argument farther, the general proposition, that agriculture is benefitted by the advancement of every other interest essential to civilization, has, I would hope, been satisfactorily demonstrated.

That every other element in the economy of society, is reciprocally interested in the prosperity of agriculture, has been made, at least, equally apparent in the course of the argument.

To lay down the additional proposition, that agriculture is interested in the improvement and perfection of its own processes, might seem to be the superfluous statement of a mere truism.

Every farmer with a given amount of land, capital and labor, looks to his gross produce, as the proper return for his outlay—and on the volume and quality of this produce, depends his ability to command and to enjoy for himself and those dependent on him, the productions of the Arts, and the services of the professions. Every agricultural improvement looks to the larger *quantity*, or the better *quality* of the product. To promote these two ends is, of course, the more obvious and direct object of your association.

Having thus unfolded to you some of the outside relations of the great calling of the farmer, I gladly leave this important interior field to those who shall succeed me in addressing you on occasion of your future anniversaries, and who will bring to the task a knowledge of the theory and practice of Agriculture which I cannot pretend to.

I will, however, before closing, venture to call your attention to a few topics connected with this part of the subject.

In the first place, it is a truth that will become evident on a little reflection, that the division of labor cannot be profitably carried to the same extent in Agriculture, as in Manufacture. In the larger establishments we are told, there are ten distinct processes in the manufacture of the pin, each of which may employ the labor of its man, from one year's end to another. But not so with the processes of Agriculture.—One cannot plough throughout the year, and another sow, and another make hay.

But, on the other hand, there are certain classifications of the greater operations of husbandry. We hear, for example, of stock farms, dairy farms, grain culture, and the planting interest, comprising the subdivisions of the growing of tobacco, of cotton, of rice, and of the cane.

I take it to be sound dostrine in this connexion, that large tracts of country should not confine themselves to any one of these forms of husbandry—for a failure of the staple produce for a single season, would occasion unmitigated distress to the agricultural class, and affect disastrously all collateral interests of the district.

The partial failure of the wheat crop of two or three seasons past, furnishes an illustration of this truth, the force of which is felt by the farmers of Wisconsin, sufficiently to admonish them of the expediency of extending the cultivation of corn, of oats, of barley, of flax, and other annual products—of introducing extensively stock raising, dairy, and wool growing, to all which uses the soil and climate of our State is admirably adapted.

Out of this extensive range of culture, it will doubtless be good policy for the individual farmer to select for his *leading* object, such form of husbandry as may

be best adapted, in his judgment, to the soil he has to deal with, and the position of his farm with respect to market—and to carry along such collateral objects of culture as may prevent the exhaustion of the soil, and fill up his time by furnishing business for every season of the year.

By this course of policy, the advantages of the division of labor may be secured to agriculture, precisely as far as it would be profitable to carry it; improvements would be more likely to be introduced; and greater skill and economy would accrue to the executive processes.

In new and sparsely settled sections of the country where land is abundant, and labor greatly in defect, there exists, from the nature of the case, a strong tendency to spread cultivation over a large surface, overtaxing the superficial powers of the soil, in order to give the greatest immediate effect to the limited amount of human agency.

Looking to immediate results, the settler, no doubt, accomplishes his purpose; but the habit of slovenly and unthrifty farming thus acquired, is apt to be persevered in, long after the necessity which seemed, at first, to justify it, has passed away. The soil, robbed of its apparent productive elements, refuses to yield its increase, and through the discouragement and impoverishment of the farmer, is condemned to years of sterility—when under a different treatment, it would have steadily improved in productive power, and have made a more and more grateful return for the good husbandry bestowed upon it.

The importance of acquiring a thorough knowledge of the THEORY, as well as practice of Agriculture, cannot, therefore, be urged too early or too forcibly on the farmers of Wisconsin. The education of the American farmer does not now terminate in a mere knowledge of the routine of sowing and cropping, and in a dutiful adherence to the practice of his father and his grandfather.

There is scarcely a branch of natural and physical science, which has not now, its known and acknowledged bearings on Agriculture.

The construction and the working of agricultural implements of every class, call into daily operation the principles of Mechanism. Hydrostatics and Hydraulics have their manifest uses, on, and about the farm. It were vain to assume that the practice of stock raising has nothing to ask from the truths of Animal Physiology. And as man and the entire animal kingdom, seek their sustenance, ultimately, from the herbage of the ground, vegetable physiology has still more important aid to render to every form of practical agriculture—determining the functions of the root, as imbibing the food of the plant, in watery solution; of the stem, with its organs of circulation; of the leaf, which retains and assimilates what is necessary to the structure of the whole and the character of the fruit, discharging into the atmosphere the superfluous matter in the shape of gases and vapor.

The philosophy of each of the imponderable agents, light, heat, electricity, and magnetism, has relations to vegetable life and health of an interesting and important character.

But of all the sciences, chemistry is the most fruitful in the aids it is destined to render to agriculture. By the analyses of the laboratory, we are put in possession of all the chemical elements of the vegetable kingdom, both those that are common to all plants, and those that distinguish one species from another. We are thus enabled to infer the composition of soil adapted to each plant; and by the analyses of a given soil, we ascertain the given elements in defect, which it is the office of good husbandry to supply.

This leads us to the doctrine of specific manures—the basis of extensive improvements made, and to be made, in practical agriculture.

Farmers have observed that some crops exhaust a given soil more rapidly than others. Chemistry detects the elements abstracted from the soil by the annual crop, and directs to the specific manures which will replace these elements, and keep the land in heart. Without the science, the land may be condemned to lie fallow, or to be recovered by the empirical and wasteful application of manures, in the grosser forms.

For example, tobacco, the vine, the pea, and clover, require lime in large quantities, and as the supply comes to the plant through the root, a succession of crops will soon exhaust the soil, unless that element be replaced by the hand of the farmer.

It cannot be doubted that every physical element found in the plant must have had its previous existence in the soil, or the atmosphere. "It is upon the clear understanding of this fact," as an English writer well remarks, "that the success-

ful business of the farmer depends. It is calculated to raise the operations of the agriculturist to a level with those of the manufacturer; and instead of committing the cultivation of the soil to accident, as if nothing were understood respecting it more than the mechanical preparation of it for the seed, it will serve to explain upon what causes growth and production, and consequently their opposites, abortion, and non-production, fundamentally depend, and of course, will enable him to provide against both." All this is well said, and presents the valuable thought very clearly to the apprehension of the farmer.

While on the subject of the specific food of plants, it falls in my way to say, that a large portion of the organic matter of the vegetable kingdom, exists in the atmosphere, in the gaseous form, and is largely soluble in water. It is the office of rain and snow to bring down these elements, and to saturate with them that portion of the soil that has been mellowed by the plough—and the deeper the ploughing, the larger is the fund of these elements, subject to the draft of the root during a period of drought.

I might go on to mention the agricultural bearings of physical Geography, of Geology and Minerology, the philosophy of subsoil ploughing, and other considerations connected with the character of natural soils, and their permanent improvement. But time fails.

I close this part of the subject by a single additional allusion to the successful efforts which modern science is making to grapple with the uncertainties of the weather—to subject the hitherto hopeless caprices of the elements to known laws; and if not to hand over to the farmer the winds and the storms, the cloud and the sunshine, sealed up in a bag, at least to forewarn him of their alternations, and to enable him, by a prudent forecast, to press them into his service, and, measurably, to control their results.

And now, gentlemen, in this hasty summing up of the sciences, comprising what is essential to the theory of agriculture, I would ask whether anything is included, which the farmer is not interested to know?—is anything included, which, if known by the farmers generally, would not contribute to elevate practical agriculture to an economical and social position eminently honorable and profitable to itself, and singularly auspicious of good to man?

I am uttering not the mere aspiration of hope, but the decision of sober judgment, when I say, that the day is not distant, when it shall be shame to the young farmer to commence the practice, without first having acquired the theory, of his profession.

I say of his *profession*, because, let it once be understood, that the industrial employments are to be approached through a course of scientific preparation, then the middle wall of partition between the liberal and the useful arts is broken down—let it be understood that Agriculture has its *theory* and its *philosophy*, then it rises at once to the dignity of a profession.

The sneer at the scientific farmer, which once disfigured the countenance of a self-satisfied "practical Agriculture," has already passed away, and given place to an expression of admiration at the taste, the economy, and the thrift of a better, because a *scientific* cultivation.

The sneer at the scientific farmer, if it ever meant anything, when done into plain English, could have meant nothing less, than that a certain amount of *ignorance* was necessary to qualify a man for a sound practical farmer—a sentiment which falls strangely on the ear of the agriculturist of the present day.

The eminent success of model and experimental farms, and the labors of the agricultural press, have brought the mind of the entire community to a just appreciation of the value of the sciences, in their practical applications to Agriculture and the Arts, and the importance of their universal dissemination.

The conviction is taking fast hold of the mind of Europe and of the older States of this Union, that for the thorough acquisition of this valuable agricultural knowledge, it will not do to depend on the ephemeral influences of popular lectures and addresses; nor yet on the mass of information placed before the farmer through the agency of the periodical press. Agricultural seminaries are beginning to be constituted, where the science may be acquired, and in connexion with model farms, its application may be made familiar to the professional pupil, in preparation for the successful and profitable discharge of the maturer duties of the practical farmer.

These views are rational and just. Agricultural science, like all other science, is to be acquired by study and research. The discipline and the instruc-

tions of the school, are essential to its seasonable and thorough acquisition. Without it, the farming processes fall to the low level of routine and drudgery. With it, Agriculture vindicates its undoubted claim to stand, not only in the first rank of the experimental arts, but to take its position, side by side, with the learned professions, in dignity and honor, as well as in profit.

Farmers of Wisconsin! If, throughout this argument, I have been so fortunate as to express your convictions, and if your judgment is with me on the topic of the scientific preparation of the young farmer for his great vocation, it is pertinent to enquire, in conclusion, whether it is not in your power, so to mould and to fashion the system of public instruction, as to embody and to realize the idea, so vitally important to the Agriculture of the State.

The educational organism for Wisconsin, as I understand it, comprises—1. The District School, carrying elementary instruction into every neighborhood in the State.—2. One Academic, or Union School for each township.—And 3. The University. The organic law of the University of Wisconsin, provides for the establishment of the several Departments—1. of "Science, Literature and Arts' —2. of "Medicine"—3. of "Law"—and 4. of the "Theory and Practice of Elementary Instruction."

The Regents of the University propose to add a Department of the "Applications of Science to Agriculture and the Useful Arts;" to go into effect whenever the means shall be provided for the support of the Professor, the purchase of Apparatus, and the Ground necessary for a model farm.

Such a Department, suitably endowed by the State, would offer to the young men of Wisconsin, the future cultivators of the soil, without charge, a full course of instruction in the theory and practice of Agriculture; and the working of the model farm would defray, in part, the expenses of residence.

The pupils in this Department of the Philosophy of Agriculture and the Useful Arts, would have free access to the library of the University, to the collections of the various branches of Natural Science, and, in connexion with the regular classes, to the lecture rooms of the Professors of the other Departments, whether collegiate or professional.

From such conditions of culture the young farmer will go forth to his work, with juster views of the relations of the sciences to the arts, and of the arts to each other—he will find all remains of the middle wall between Agriculture and the Professions removed, his social position more fairly adjusted, his industrial agency more effective, better appreciated, and more amply rewarded.

But this is not all. The instructors of the Academic or Union Schools, should go from the University to their task, not only with the learning of the Normal Department, but well versed in the instructions of the Department of applied science.

Such an educational system is now offered to the farmers of Wisconsin.

Are you, then, prepared to endow in your University, for your own benefit, a Department of the "Applications of Science to Agriculture and the Useful Arts?" If so, your bounty will prove to be good seed, falling on good ground, springing up and bearing fruit, thirty, sixty, an hundred fold.

It is a fact of world wide celebrity, that Wisconsin presents to the settler the physical elements of prosperity, in rich profusion, and in beautiful combination.

With its soil and climate unsurpassed—with its capacity for rapid settlement and early maturity—with its continued alternations, in just proportion, of woodland and opening, of prairie, natural meadow, and lake—and with the command of both the Eastern and Southern markets, it needs but the means of professional culture, thus carried to the door of the farmer, through the system of Public Instruction, to finish what nature has so tastefully and so bounteously begun.

Bring, then, the educational agencies of the State into harmony with the great objects of your Association; follow up the auspicious beginnings of this day with ample provision for general professional culture, and you will leave an inheritance to your children, transcending all that you have felt or fancied of the destiny of Wisconsin.

Education, Gentlemen, is no mendicant. It begs nothing from your charity. Its proclamation to you is, "Give, and it shall be given to you again; good measure, pressed down, and shaken together, and running over, shall be returned into your bosom."

ARTICLE IV.

The Cities of Missouri.

By WM. GILPIN, Esq.

THE CITY OF INDEPENDENCE.—Next in rank to "Metropolitan St. Louis," and second in size, population and commercial repute, among all the flourishing young cities that dot our State, is beautiful *Independence*. Long ago, in 1824 and 1825, two counties sundered by the Missouri river, and flanked by the Western border line, sought at the same time their incorporation by the Legislature. On the North, the inhabitants, mostly emigrants from Kentucky, and advocating that gentleman's elevation to the presidency, called their county *Clay*, and its seat of Justice *Liberty*. On the South, as if in rivalry, emigrants from Virginia, Carolina and Tennessee, selected the name of *Jackson* for their county, and *Independence* for their city. As in the political contests of our country, so in progressive vigor of growth, Jackson and Independence, favored by a marvellous fertility of soil, robust industry and paramount strength of position, have grasped and kept the palm, advancing beyond all rivalry in population, production and wealth.

Jackson county, indeed, envelopes the outside of the great elbow of the Missouri river as it enters our State, and opens with uninterrupted ease upon the great prairie ocean that sweeps out South and West to the remote extremities of the continent. It is thus the avenue of mankind into those vast regions of superlative interest, as the flood of population disembarks from the river channel to flow into them. This county, like the five neighboring counties south of the great river, is a protrusion into our State of the gently rolling plain of the Kanzas basin, unparalleled in the world for the depth and fertility of its mulatto soil and of exquisite romantic beauty.

In the current course of human society round the world, geographical novelties flash up, and arrest the attention of mankind. Thus four hundred years ago America arose out of the ocean to the knowledge of wonder stricken Europe, never again to be lost. —Of a similar world-wide interest is the approaching construction of a "CONTINENTAL RAILROAD," from the Western terminus of Atlantic navigation, at Kanzas, in this county, straight out to the great ocean which washes Oriental Asia. Thus is reversed a standing inconvenience in the pathway of mankind: thus is knitted over a chasm in the universal comity of all the nations of all the continents; and thus *America*, heretofore the distracting barrier, comes to fill out and complete the circle in which three continents and a hundred nations bind the hemisphere of the North in one endless and graceful zodiac.

The area of the city of Independence is one thousand acres; its population *four* thousand, and the official assessment of property

two millions of dollars. Besides the public square, flanked on every side with substantial brick edifices, well graded and macadamized streets, relieved with the shade of the locust, an excellent taste is everywhere shown in the style and excellence of the shops and dwellings.

A commercial emporium upon our Western boundary, and our own bank South of the Missouri river, is a great want and desideratum to commerce. Such as Buffalo is to New York—Pittsburgh is to Pennsylvania. All the States have, for the convenience of commerce, created those commercial *portals*, where the central channels of business enter their territories. This city, the seat of Justice of Jackson county, and only nine miles from the frontier, has, up to this time, occupied this position, and seems to possess the commanding geographical locality to retain it.

Like all the county seats located in an early day, when the settling of the wild lands exclusively occupied the industry of the citizens, its site has heretofore been detached from the river, to enable it to approach the geographical centre of the county. The interval is *two miles*. A railroad has been constructed and finished to the river, to make the connection easy and rapid. This has not been sufficient to accommodate the increased business. Accordingly, streets have been opened and macadamized, grades over the river bluff have been constructed, so as to make the connection with the great steamboat traffic on the river front direct, unobstructed and abundant. It is also contemplated by the proprietors of the lands embraced in this interval, to offer for sale during the coming spring, in building form and lots, some six or seven hundred acres, through which these streets run.

Apart from other considerations, the geographical site of Independence, is singularly fine and attractive, having health, a high surface both level and well drained, and great beauty of position to recommend it. Besides the attention given to the Missouri river front, excellent roads have been opened and cleared to the frontier line, the streams bridged, in all directions, and good roads are everywhere under construction to give facility of access from the surrounding counties. The strongest wish also exists to attract to this commercial emporium, the trade of Clay, Clinton and Platte counties, across the river containing an aggregate of thirty thousand inhabitants.

The counties of Cass, Johnson, Vernon and Bates, contiguous on the South, contain eighteen thousand six hundred inhabitants. The county of Jackson has fourteen thousand inhabitants. The city of Independence is the geographical and commercial centre of these seven prosperous counties, containing fifty-thousand inhabitants.

But it is well here to insert the following exact statistical information, furnished by the Superintendent, De Bow, of the Na-

tional Census, and *officially* copied from the returns of the *seventh* Census, 1850.

Population of Eight Counties in Missouri—Free and Slave.

Counties.	Free.	Slave.	Aggregate.
Bates	3,528	141	3,669
Caldwell	2,180	136	2,316
Cass	5,612	478	6,090
Clay	7,590	2,742	10,332
Clinton	3,347	439	3,786
Jackson	11,031	2,969	14,000
Johnson	6,585	879	7,464
Platte	14,047	2,798	16,845
Total	53,920	10,582	64,502

Productions of Agriculture in Eight Counties of Missouri.

Counties.	Acres of Land in Farms.		Cash value of Farms.	Value of Farming Implements & Machinery.
	Improved.	Unimproved.		
Bates	20,828	27,660	174,371	28,253
Caldwell	14,707	36,837	233,491	19,585
Cass	34,800	85,898	518,741	39,063
Clay	71,905	142,661	1,927,268	106,991
Clinton	26,244	85,217	800,204	34,604
Jackson	49,619	129,688	1,723,995	84,985
Johnson	41,000	105,915	752,935	53,060
Platte	94,446	124,752	3,738,215	189,292

Productions of Agriculture in Eight Counties

Counties.	*Live Stock.*						
	Horses.	Asses and Mules.	Milch Cows.	Working Oxen.	Other Cattle.	Sheep.	Swine.
Bates.....	1,776	214	2,917	1,396	6,782	4,135	16,500
Caldwell.....	909	281	964	518	2,524	4,931	8,149
Cass.....	2,623	611	2,473	2,477	4,945	7,964	14,006
Clay.....	4,481	1,167	4,113	2,052	8,536	17,688	25,532
Clinton.....	1,625	441	1,676	1,062	4,723	6,424	13,419
Jackson.....	4,517	1,396	3,905	2,840	7,925	14,784	28,312
Johnson.....	3,221	1,111	2,988	1,837	6,824	13,281	19,806
Platte.....	6,288	960	5,505	3,647	11,256	20,234	45,133

Productions of Agriculture in Eight Counties

Counties.	*Produce during the year*							
	Peas and Beans, bushels of.	Irish Potatoes, bushels of.	Sweet Potatoes, bushels of.	Barley, bushels of.	Buckwheat, bushels of.	Value of Orchard Products in dollars.	Wine, gallons of.	Value of Produce of Market Gardens.
Bates.....	346	6,738	1,481	17	60	1,184	10	282
Caldwell.....	16	3,043	526		155			
Cass.....	318	7,482	1,968			1,962		603
Clay.....	2,714	18,338	8,536	10	49	19,355		50
Clinton.....	43	5,591	1,683		52	2,333		
Jackson.....	323	18,041	6,534	85	90	2,575	83	
Johnson.....	29	8,442	2,950		200	936	8	25
Platte.....	200	43,630	9,176	135	419	6,358		221

of Missouri.—Seventh Census.

Value of Live Stock.	*Produce during the year ending June 1st, 1850.* Wheat, bushels of.	Rye, bushels of.	Indian Corn, bushels of.	Oats, bushels of.	Tobacco, lbs. of.	Wool, lbs. of.
185,168	8,614	16	120,340	49,035	4,590	12,836
114,512	12,734		16,135	45,740	760	13,691
246,923	13,524	29	300,976	65,113	5,353	13,475
420,615	50,890	2,018	834,830	112,027	20,050	41,461
178,444	22,363	234	299,070	48,469	6,850	14,672
450,364	55,856	15	938,309	124,363	38,920	30,027
314,697	22,930	535	445,895	89,245	900	31,589
687,480	129,067	2,455	1,844,287	127,392	66,000	59,786

in Missouri.—Seventh Census.

ending June 1st, 1850.

Butter, lbs of.	Cheese, lbs. of.	Hay, tons of.	Clover Seed, bushels of.	Other Grass Seeds, bushels of.	Hemp. Dew Rotted, tons of.	Hemp. Water Rotted, tons of.	Flax, lbs. of.	Flaxseed, bushels of	Silk Cocoons, lbs. of.
47,962	2,295	859	3				2,800	72	
9,965	7,400	1,015			20		2,000	110	2
59,090	3,555	1,610		53	1		2,048	59	
118,230	3,942	2,959	34	14	1,274	14	8,497	381	4
52,596	2,090	1,585		31	193		6,276	50	5
139,622	1,885	798		80	361		1,443	276	
102,155	1,625	1,247		62	65		7,670	27	
959,811	1,027	3,551		51	4,345	10	420		

Productions of Agriculture in Eight Counties of Missouri.

Counties.	Maple Sugar, lbs. of.	Molasses, gallons of	Beeswax and Honey lbs. of.	Value of Home-made Manufactures.	Value of animals slaughtered.
Bates	100		16,863	$14,080	$20,937
Caldwell			9,886	6,890	17,307
Cass.			22,024	19,450	34,249
Clay	3,900	119	11.891	31,947	94,580
Clinton	930	40	9,303	19,366	25,985
Jackson			4,253	21,869	84,456
Johnson			30,765	21,369	45,535
Platte	250		136,213	54,179	150,979

Counties.	No. of Manufacturing establishments.	Capital invested in Real & Personal Estate in the business.	Raw material used, including Fuel.	Average number of hands employ'd		Wages.		Annual Product.
			Values.	Male.	Female.	Average monthly cost of male labor	Average monthly cost of fem. labor	Values.
Cass	19	$22825	$29527	51		$903		$51124
Caldwell	7	6600	12080	16		228		20850
Clinton	17	15030	41800	32		631		27900
Clay	42	63845	63330	138		862		126125
Jackson	78	107903	135152	279		6555		270553
Johnson	28	20050	35536	57		786		57968
Platte	64	207215	398047	246	3	6926	35	789484

Bates has no Estimates returned.

An hourly advancing and expanding growth enhances the value of a prosperity that thus shows so fair in the official tables made more than two years since.

But it is also much more and beyond this wonderfully happy and geographical position and the commercial centre of a growing *external* commerce, permanent in character, and compelled to have a rapid expansion for all future time.

At the mouth of the Kansas river, eight miles west of Independence, the great Missouri coming from the north, bends to the

east, and enters the State at a right angle. At the point of this right angle or elbow, it receives the Kansas river, a large stream which rises at the foot of the Rocky Mountains, and runs due east across the Plains, being about seven hundred and fifty miles from its source to its mouth. But all along the southern rim of the Kansas basin runs a prairie crest, level and smooth, forming the *divide* of waters between it and the Arkansas river. This *divide*, throwing off a finger between the two little streams called the Blues, traverses Jackson county, and reaching the south bank of the Missouri, flattening out, becomes spacious and level, and at its contact with the river forms the site of Independence.

This then explains the permanent excellence of geographical position. Upon this *divide* is located, and will forever remain, the great natural road of communication, both of travel and commerce, with the immense countries upon the waters of the Arkansas and the Kansas too—with Texas, with new and old Mexico, with California and Oregon; add also, the western portions of the States of Missouri, Arkansas and Louisiana, everywhere of easy access on the prairie front. The cities higher up the river, as Weston and St. Joseph, are out of the central direction of *Western* travel, upon the east bank of the Missouri, which has to be crossed and the high bluffs and broken region extending into the interior from its western bank, to be overcome in an uninhabited, Indian country; whereas none of these serious disadvantages exist at Independence, owing to its admirable locality on the south bank and upon the point of a *divide*. This *divide* is also the most westwardly in the State, and the last one below the Kansas, leading out into the Great Plains.

The *St. Louis and Pacific Railroad* touches the river at Indepence, which is the *tap* point to receive the produce of the whole immense country of the Missouri river above its *elbow*, and forward it to Eastern and Southern countries. This grand and glorious *Continental railroad*, when it shall come from the tide ports of the Pacific ocean, to pour plenty over *interior* America, will here first strike the great navigable artery of the continent and let out its groceries and salt and abundant comforts upon the great river system of transportation! Thus is Independence city, the first great eastern terminus of the Pacific railroad, as it comes from that ocean to reach the navigation of the Atlantic waters!

But the Territory of Nebraska about to be organized, the commanding portion of which will be the basin of the Kansas and the river country of the Missouri shore up to the mouth of the great Platte. Of this whole scope of wonderfully fertile country, Independence will become the commercial emporium, as St. Louis has similarly been for the countries west of it for the past twenty years. In four years there will be created out of a part of Neb-

30 degrees, its longitude 66 deg. 24 min. west of Greenwich. This point is 121 miles west of Independence.

running due West four hundred miles; thence due North to the great Platte; thence down the Platte to the Missouri river, thence by the channel of the Missouri river and the Western boundary of Missouri to the beginning. Of this young State, Independence will be the business portal to the Eastern world.

The city of Independence has a singular identity with the Gulf of Mexico and Texas, whence comes the essential and immense grocery trade. The *meridian* of Independence also passes through Galveston in Texas. The distance is just seven hundred miles; whereas, by the river, the Mexican Gulf is sixteen hundred miles distant. The capability of constructing a railroad from Independence to Galveston is wonderful. It is a smooth prairie expanse to the Trinity river, which descends across Texas to Galveston Bay. Such a road will traverse the most delicious of all countries, which skirts the line North and South down the continent, where the timber half and the prairie half of interior America merge into one another.

True, it is, that this strip of country, so fertile in soil, gentle in climate, and so adorned by Nature to woo into it the population of the old sterile *Thirteen* States, is at present *tabooed* by their jealousy. Federal power, made the meretricious engine of *maritime* monopoly and spleen, declares it an Indian waste, and interdicts it to the white millions.

But the healthy love of truth and human right will some day rekindle in the hearts of the agricultural citizens of the Central States. Then these lands will be rapidly occupied by the people, and their proceeds at a just and moderate price, link together these isolated States and cities with beneficent and harmonizing railroads.

This accomplished, (and it will come soon) the great Gulf trade will ascend to Independence, and thence distribute itself to the North by the Missouri river and by other railroads penetrating Iowa and new States to the West of it. Vice versa will flow out the reflex trade in the productions of these countries. Thus will be blended on the west in the natural social ties, suggested by their geographical proximity and regular order of climate and productions, the great fraternal States of Texas, Arkansas, Missouri and Iowa.

Again, there is in the geographical locality of Independence an interesting fact which seems to show the eminent favoritism of supreme *Nature* herself. At the junction of the Smoky Hill and Republican Forks, which unite to form the Kansas river, in the bosom of the immense fertile prairies, and in an undulating country of the most fascinating picturesque beauty, is the most extraordinary focal centre of the American continent. Its latitude is 39 degrees, its longitude 96 deg. 24 min. west of Greenwich. This point is 121 miles west of Independence.

If from this centre a circle be described so as to touch the northern boundary parallel of 49 deg. as a tangent, the opposite side of this circle will sweep through Mobile, through New Orleans, and grazing the intermediate Gulf coast, pass through Matagorda harbor in Texas. This point at the forks of the Kansas is then the centre of our National Territory, north and south. If also another concentric circle be described through San Francisco, it will sweep along the Pacific coast, within a few miles of the beach, cutting the seaports of Portland and Vancouver on the Columbia river. Its opposite side will sweep through Quebec and Boston, through Havana in Cuba, and through Vera Cruz and the city of Mexico. This same point is then also the centre of our territory between the oceans, east and west. It is equally the centre, geographically, of the Valley of the Mississippi.

Besides being thus in a three-fold degree the geographical centre of the Union, both as it now is and will be hereafter enlarged by more States, there is here an equally characteristic demarcation in Agriculture. The half extending to the Atlantic has timber, is all adapted to the plough and grain being prominently marked for arable agriculture. But the half extending to the Pacific is without timber, mountainous, dry, and clothed with perennial grasses, being adapted to cattle, horses and sheep, but repelling the plough. This half is therefore prominently marked for pastoral agriculture. Again, its latitude is that which marks the joining line of different agricultural systems. On the north, the greatest energy is devoted to the production of food, as grain, hay, swine, roots and orchard fruits. On the south to hemp, tobacco, wool, the grape, fruits, and cotton, employ the chief agricultural energy. Now all the elements which go to group together society in its densest and most adhesive form, here approach one another, come into contact and are blended.

The climate is of that exact medium which the white races in all ages and countries have found most congenial, and is central to the belt of the temperate zones. From *Independence*, the nearest point of navigation on the great natural artery of commerce, the channel of Missouri, goes to St. Louis, where the rivers open like the fingers of a fan towards the East; the Upper Missouri penetrates the North by 2000 miles of navigation—towards the West and South there is no navigation, but the smooth character of the continent in these directions everywhere invites railroads.

In the above narration of facts, the design is to be faithful in delineating nature, and to throw prominently out what appears to be paramount advantages possessed by this *City of Independence*, beginning now in the ripeness of time to excite interest beyond its own immediate vicinity.

In truth, society has followed a very uniform law for several thousand years, as its progressive wave has rolled slowly through the three northern continents, Asia, Europe and America. On

the great navigable rivers which present broad, fertile basins having navigable *throughs*, society has always congregated more densely than elsewhere, and has erected large commercial cities or emporiums at easy intervals upon their banks. Such have been the Ganges, the Nile and the Danube in the old world. The same law is demonstrated still more clearly on the North American rivers, thus upon the entrance to the river St. Lawrence are Quebec, Montreal, Toronto, Buffalo, Cleveland, Detroit, Chicago. On the entrance by the Ohio are Philadelphia and Baltimore, Pittsburgh, Wheeling, Portsmouth, Cincinnati, Louisville, Evansville. On the Mississippi are New Orleans, Natchez, Vicksburg, Memphis, Cairo, St. Louis. These cities of first importance are usually one hundred leagues apart. The superior fertility of America will require them to be more numerous and larger than in the old world. A slight inspection of a map of the river system of the world, such as Humboldt has made for us, will draw the eye at once to that portion of the Missouri river running west and east from the mouth of the Kansas to St. Louis, and in length about four hundred miles.

The wonderful centrality of this water channel has been described above, and around it is an undulating calcareous plain of one thousand miles radius, unparalleled elsewhere in fertility, into which the human race will continue to accumulate until they reach many hundred millions in number. These two cities at the extremes of this water channel, St. Louis and Independence, stand out upon the face of the continent like eyes in the human head. The peculiar configuration of the continent, and of its rivers and plains, make these *two* natural *focal* points. This will not be interfered with by any railroads or other public works which may be constructed by arts, as these latter are successful and permanent *only* when they conform with the water grades of nature and the natural laws which condense society.

These memoranda are thrown out for the information of fair and candid judgments. Such is the rapidity with which these localities for great cities are sought out and the cities founded and built, and so absolute is the necessity for them as Territories and States rise in the wilderness under the agricultural energy of the rural population, that correct geographical data for their selection is immensely important in the general economy. They have a bearing and interest upon States and the whole people of the States and of the continent. The object is to attract the attention of energetic citizens on the move; to cite them to what is detailed above; and harmonize and identify distant cities, whose interests and prosperity are mutual, and to throw out in relief a young and prominent candidate for the general favor—and to be such a favorite with the whole American people, the young *city of Independence* proposes herself.

ARTICLE V.

Mississippi Valley Exhibition at St .Louis.

The spirit recently manifested throughout the Western States in getting up County and State Fairs, very naturally suggests the idea of an exhibition of the industry and natural wealth of the Valley of the Mississippi upon a more extended scale. Not a "World's Fair:"—we are too remote from the great highway of nations to expect contributions from foreign countries;—but a fair for the exhibition of the products of our own great region. A fair to be held at a central point accessable to the inhabitants of the entire valley west of the Alleghanies.

The arts are ambulatory. Natural wealth is stationary in its nature; and the question in political economy which most interests the civilized world, at the present time, is, where can the greatest amount of natural wealth be found in a climate congenial to industrial pursuits? Much has been said and written touching the mines, soil and climate of the Mississippi Valley; let us make a complete collection of our mineral and agricultural products, and we shall convince all who may visit the exhibition that the one half of our wealth has not been told to them. We can imagine no measure better calculated to attract the miner, manufacturer and artizan than such an exhibition, provided it be undertaken in the proper spirit, and conducted by individuals who can inspire the people of other countries with confidence in the enterprise.

An exhibition of the objects here suggested, would be of more benefit to the Western States, and even to the whole Union, than a dozen such fairs as that now being held at New York.

We are not to be understood as underrating the effects of the New York exhibition; for notwithstanding the little time allowed for preparation, we are persuaded that Missouri will be greatly benefitted by it. The favorable notice taken of our manufactures and works of art, will lead western people to look to St. Louis for many commodities which it has been supposed could be obtained only in the eastern cities.

But it is from the exhibition of our minerals that the most important benefits are to be expected, and already through its agency, at least in a good degree, the mineral wealth of Missouri

is attracting far more attention than at any previous period. Specimens consisting of iron, lead, copper, coal, cobalt, nickel, marble, &c., from about fifty localities in Missouri, have found a place in the Crystal Palace, at New York; but owing to the little time allowed for making the collection, the mines or veins from which they were taken, have not been properly represented. Had the agent for Missouri known at the date of his appointment that the time for admitting mineral specimens would be extended, as it finally was at his request, complete series of specimens from the principal localities could have been collected and arranged, and the number of localities represented would, in all probability, have exceeded one hundred.

It is the duty of our citizens to make the resources of the State known to the world; and the only sure way to effect this object is to take the management of the matter into their own hands. Let them resolve to hold a fair at St. Louis, at some time during the year 1855, and commence preparing for it at an early day. By the summer of that year we may expect the railroads east of the Mississippi, terminating at this place, to be in operation affording easy access to St. Louis from the States east of the river. By that time too the mines of Missouri and Illinois will have been sufficiently explored by scientific geologists to enable us to make a fair exhibition in the mineral department.

We throw out these suggestions for the consideration of our citizens, and leave it with them to judge whether the object proposed will compensate for the labor and expense incident to its attainment.

BRIDGE OVER THE MISSISSIPPI AT ROCK ISLAND.

At the last session of the Illinois Legislature, a charter was obtained by parties interested in the Rock Island Railroad for the construction of a bridge across the Mississippi river at that point. We learn from the Chicago papers that the contract for building the bridge has just been let. It is to be completed by the first of December, 1854. Messrs. John Warner & Co., have the contract for the stone work; and Messrs. Stone & Boomer, of Chicago, build the superstructure. The slough on the east side of the Island is to be crossed by three spans of 150 feet each; and the main channel of the river by five spans of 250 feet each, and a draw for the passage of vessels. The total length of the main bridge will be 1,580 feet. The bridge will be a beautiful and most substantial structure.—*Alton Telegraph.*

JOURNAL OF INTERNAL IMPROVEMENTS.

(From the American Railroad Journal.)

Cost of Transportation on Railroads.

The question of cost of transportation by railroad has been thoroughly considered in Massachusetts, particularly in the case of the Western railroad. The stockholders of that company being desirous of ascertaining the cost of moving persons and property on *their* road, and also the cost compared with other roads, appointed a committee to investigate this subject. At the request of this committee, Mr. Swift, the president of the road, went into an elaborate examination of the matter, and found from the experience of five years operation of eight of the leading, most profitable, and best managed Massachusetts roads, that the actual cost of moving a passenger or a ton of freight was equal to 1.445 cents per mile. The following table, prepared from official sources will show tne result arrived at.

Statement showing the number of passengers and tons of freight carried one mile; the total expenses and cost per passenger, or per ton of freight, on the following roads for a period of 5 years, ending Jan. 1, 1853:

	No of passeng. and no. of tons carried 1 mile, average.	Gross expenses.	Cost per passenger. or per ton p. mile, carried.
Western	213,925,952	2,937,593	1.373 cents.
Boston and Worcester	126,499,456	1,899,845	1.502 "
Boston and Maine	92.997,700	1,237,515	1.330 "
Fitchburg	82,702,400	1,077,169	1.302 "
Boston and Lowell	82,227,452	1,253,519	1.535 "
Eastern	74,720,643	985,066	1.318 "
Boston and Providence	50,118,288	860,220	1.716 "
Old Colony	36,198,135	721,912	1.994 "
	759.390,026	10,977,839	1.445 cents.

The gross receipts upon the above roads for the same period, were $21,744,518; or 2.860 c. per ton or per passenger carried one mile.

The operations of the *Erie* road for the past year were as follows: (See McAlpine's report for 1852, page 71.)

No. of passengers and tons of freight carried 1 mile	177,877,249
Gross earnings for do	3,265,845
Total miles run	2,389,271
Received per passenger or per ton of freight carried one mile	1.840 cents.

Estimating the expenses of the Erie road to equal those on the Massachusetts roads, which have been long in operation, and thoroughly built equipped, and under a system of discipline the result

of years of training, and we have .395 cents per passenger, or person carried one mile as the net income on the *Erie* road; and by multiplying this sum by 177,877,249, and we have an aggregate net income of $702,615 for the past year, instead of $1,878,192, as claimed by the company, or a trifle over $\frac{3}{8}$ the amount claimed, and a sum $557,385, less than what was paid for interest alone.

TABLE showing the cost, Gross and Net Earnings and Dividends of several Massachusetts roads for 11 years, ending January 1, 1853.

Boston and Worcester Railroad.

	Value.	Cost.	Gross earnings.	Expenses.	Net income.	Div. p. ct.
1842...	$109	$2,374,500	$349,207	$168,510	$180,697	7
1843...	107	2,764,400	333,367	206,641	176,726	6
1844...	114	2,836,200	426,403	233,264	193,139	7½
1845...	120	2,914,100	487,455	249,729	237,726	8
1846...	116	.....	554,712	283,876	270,836	8
1847...	112	3,485,200	722,170	381,986	340,184	10
1848...	115	4,113,600	716,284	381,917	334,367	8½
1849...	106	4,650,400	703,361	405,551	297,810	6
1850...	93	4,908,300	757,947	377,041	380,906	6½
1851...	102	4,882,600	743,923	392,687	390,000	7
1852...	101	4,845,966	758,819	427,522	331,397	7
			6,603,648	3,512,734	3,633,924	7½

Boston and Providence Railroad.

	Value.	Cost.	Gross earnings.	Expenses.	Net income.	Div. p. ct.
1842...	$91	$1,872,500	$236,468	$112,824	$123,644	6
1843...	88	1,892,800	233,388	125,374	108,014	6
1844...	107	1,914,500	283,701	113,835	169,866	6
1845...	108	1,926,100	350,629	152,802	197,827	7
1846...	111	2,000,700	351,227	169,679	181,548	8
1847...	103	2,109,400	361,779	167,900	193,879	7½
1848...	99	2,544,700	354,375	182,287	172,088	6½
1849...	91	3,031,100	354,332	163,682	190,650	6
1850...	88	3,370,300	370,727	159,279	211,448	5½
1851...	85	3,416,200	377,397	177,715	199,682	6
1852...	86	3,546,203	429,484	216,857	212,626	5½
			3,703,507	1,742,235	1,961,272	6.36

Boston and Maine Railroad.

	Value.	Cost.	Gross earnings.	Expenses.	Net Income.	Div. p. ct.
1842...	$79	.....	$155,880	$79,279	$76,601	6
1843...	83	1,260,300	178,745	99,755	86,990	6
1844...	103	1,384,000	233,101	127,621	105,480	6½
1845...	109	1,485,500	287,063	139,335	147,728	7
1846...	111	1,935,100	349,137	165,520	183,617	7
1837...	112	2,626,700	511,505	205,026	306,479	9
1848...	112	3,021,200	511,628	256,534	255,094	8½
1849...	109	3,571,800	522,335	258,495	263,810	5½
1850...	103	3,930,000	594,963	289,478	305,485	5
1851...	106	4,021,600	633,095	305,068	328,027	7
1852...	105	4,092,926	661,521	323,306	338,215	7
			4,638,973	2,241,417	2,497,556	6.77

Boston and Lowell Railroad.

	Value.	Cost.	Gross earnings.	Expenses.	Net Income.	Div. p. ct.
1842..*	$595	$1,834,900	$278,310	$131,013	$147,297	8
1843...	595	1,978,300	277,315	109,367	167,948	8
1844...	640	1,863,700	316,999	165,257	151,652	8
1845...	580	1,902,500	356,067	175,042	181,025	8
1846...	575	1,932,600	384,102	207,987	176,115	8
1847...	572	1,940,400	448,555	249,225	199,330	8
1848...	550	1,956,700	461,339	266,516	191,823	8
1849...	550	2,013,710	416,488	260,904	155,584	8
1850...	556	1,945,600	406,471	256,508	149,913	8
1851...	570	1,945,600	409,153	267,035	142,118	8
1852...	480	1,995,249	383,108	257,227	125,881	7½
			3,437,767	2,346,081	1,791,687	7.95

* Par value $500.

Eastern.

	Value.	Cost.	Gross earnings.	Expenses.	Net Income.	Div. p. ct.
1842...	$100	.....	$69,169	$119,040	$150,129	6
1843...	89	.....	279,562	104,641	174,921	6
1844...	104½	2,388,600	337,238	109,319	227,919	7½
1845...	112	2,406,400	350,150	116,840	233,310	8
1846...	104	2,471,600	371,339	132,556	238,783	8
1847...	108	2,815,100	424,841	135,083	289,758	8
1848...	104	2,937,200	479,158	182,216	296,942	8
1849...	104	3,095,400	517,929	183,980	333,940	8
1850...	101	3,119,300	539,076	185,118	353.858	8
1851...	104½	3,120,400	502,054	195,399	306,655	8
1852...	98	3,120,391	488,973	247,955	241,018	8
			4,559,489	4,712,247	2,847,222	7.59

Western.

	Value.	Cost.	Gross earnings.	Expenses.	Net Income.	Div. p. ct.
1842...	$80	.....	$512,689	$266,619	$246,070	0
1843...	45	7,087,200	573,882	303,973	269,909	0
1844...	53	7,501,200	753,753	314,074	439,679	3
1845...	91	7,686,200	813,489	370,621	442,859	5
1846...	96	7,741,700	*878,418	*412,679	465,739	6
1847...	99	8,185,800	1,325,327	676,689	648,647	8
1848...	105	8,769,500	1,332,068	652,357	679,711	8
1849...	102	9,900,100	1,343,810	588,322	755,488	8
1850...	101	9,926,900	1,369,514	607,549	761,965	8
1851...	104	9,963,700	1,353,895	597,756	757,139	8
1852...	98½	9,963,700	1,339,873	656,678	683,194	8
			11,596,728	5,447,417	6,149,400	5.54

* 11 months.

It will be seen that the profits of the above roads reached their highest point in 1847. The dividends paid that year averaged 8 4-10 per cent., against 7 1-6 per cent. for the past year, or a falling off of 1¼ per cent., or 12½ per cent. of net earnings. In the same time the average price of their shares has fallen from 109 to 96½.

Charleston, Mo., Railroad Meeting.

On the 9th of June, 1853, a Railroad Meeting of the citizens of Mississippi County was held at Charleston, Mo.; Judge NOAH HANDY, Chairman, and JOHN C. THOMAS, Secretary; at which Geo. Whitcomb, Hon. Harrison Hough, Judge H. W. Molder, Dr. H. M. Ward, Alfred M. Bedford, Felix Badger, and John Bird were appointed a Committee to inquire into the probable cost of making a railroad across the swamp country, upon the Cairo and Fulton route, and to report on the 6th of September, 1853.

At the adjourned meeting in September, GEO. WHITCOMB, Chairman of the Committee, made a report of minute, interesting and valuable items. The statistics and additional information about the Swamp District are particularly important. We, therefore, herewith present all that portion of the report embraced in the call of the resolution.

The Committee, to whom was referred the probable cost of the Missouri portion of the Cairo and Fulton Road, report

That they have prepared their estimates from such data as were within their reach, and they believe nearer the truth, than can well be made in a hill country, without accurate topographical surveys, the route upon which their investigations were required was the Cairo and Fulton Road, but as the main object was to ascertain the probable expense of making a Railroad through what is called the Swamp country, the estimates may be used upon the routes to connect the Mobile Road from Columbus, or the Nashville road from Hickman, with the Iron Mountain Road.

The distances are obtained from Government surveys, and are "air lines," the route of the Cairo and Fulton Road, adopted for our estimates, begins at Ohio City, opposite Cairo, and running southwesterly upon the ridge between the two cypresses, past Badger's mills, to the mounds in Sec. 5, T. 26, R. 17, thence west on the line between Sections 5 and 8, through Charleston to Sec. 12, T. 26, R. 11, in Stoddard county, being across the swamp on the route to Bloomfield and the Chalk Bluffs, and somewhere near the proper place to branch off with the Iron Mountain Road, should it be located in the valley of Castor river. From Ohio City to the edge of Matthew's Prairie is 12 miles. We have estimated cutting the timber and clearing the track at $200 per mile—cutting the timber 100 feet and clearing the track 30 feet wide. From observations taken by Doct. A. E. Mardick we have averaged the embankment at 4½ feet, which will give 12 inches upon the high grounds; in this section will be required some four or five open ways or culverts to pass off the head waters that might accumulate. Of course we make no calculations for river overflow, taking it for granted that the county will make a levee out of the swamp land donation, to protect the country from inundation, the means being fully ample to do it.

From the edge of the Prairie to the northcut cypress, 8 miles, is prairie country and very level. We have averaged the embankment at 12 inches, and estimated the cost by the prices paid for throwing up common road through the same country.

The northcut cypress, 2 miles, is heavy timbered. We have put the cutting and clearing at $500 per mile and the embankment at two feet. We think our estimate on this section large—as the present road across the same place is raised 12 inches, and cross-laid with timber, making the corduroy railroad, so common in the west, cost less than $300 per mile exclusive of bridges, and we see no reason why it is not sufficiently elevated for railroad purposes. This section is already protected from overflow by the levee from Commerce to Price's Landing. Two small bridges will be required to pass off the headwaters.

The Sandy Woods, 3 miles, is similar to the prairie, except

there is some small timber and low places called glades. We have averaged the embankment at 18 inches.

The marsh, called lake St. John on the maps, 1 mile, will require an embankment of 4½ feet and a small bridge or culvert for head waters.

Big Prairie, 3 miles, will be similar to Matthew's Prairie.

The route across the swamp, 9 miles, we have terminated at Sec. 12, T. 26, R. 11, believing that would bring us to high land. Not having examined this section personally, we have relied upon data furnished us by A. M. Bedford, Esq., the timber being most of the way heavy, we have put the clearing at $500 per mile. The embankment through the worst part, called "Nigger Wool," will require to be 9 feet—the residue we have averaged at 4½ feet, though we think three feet will be found sufficient. There will be three streams to cross: Castor, Little River, and the Running Slough.

Our estimates for cutting timber and clearing track have been based upon work done upon the State road from Charleston to Ohio City, but we have doubled the prices then paid—the grading through the prairie we have estimated from similar work upon county roads. Our calculations for embankment has been for 15 feet wide at the top, and increasing 3 feet in width for every perpendicular foot down. We have estimated the price at 10 cents per cubic yard, which, as the ground is loose and sandy, with no rocks, and can be scraped upon each side with teams, we believe to be a high price—at any rate it is as much as was paid by the swamp commissioners for leveeing, after deducting the expense of cutting timber, and it is notorious that they were profitable jobs to the contractors, and certainly it is a much better price than 17 to 25 cents is for similar work in a clayey or rocky soil. We have put the work through the northcut cypress at 15 cents, on account of its being through cypress timber a part of the way. As to bridges we have no data, except bridges on common roads, as they must necessarily be built of timber, and all the items of cost furnished us from other roads have been for bridges either partially or wholly built of stone. In every case the timber will be in the immediate vicinity of the bridge to be built. The road will pass near to and through three cypresses in the 38 miles. In the first one, 7 miles from Ohio City, Felix Badger, Esq., has two steam saw mills now employed in cutting ties for the Mississippi and Ohio Road, and until lately for the Pacific Road. He will furnish ties 7 inches square for 25 cents each upon the road. They cost the Pacific Road 45 cents delivered at St. Louis, and we suppose at least 50 cents when upon the road, making a saving upon our road of nearly one-half in the expense of ties, and the same in all other uses of timber, the road passing through the finest cypress, walnut, locust and oak timber in the world. Should our estimates of clearing and grading be thought low, we are authorized to say that re-

sponsible men will take the work through our county at the estimates, and be glad of the chance. We have made no calculation for overflow in the big swamp, believing that the land donated by Congress, reaching from the city of Cape Girardeau to the mouth of the St. Francis, will be sufficiently valuable to cause it to be securely levied.

Our estimate in tabular form is as follows:

ESTIMATES.

Section 1.—From Ohio City to Matthews' Prairie (middle of Sec. 4) 12 miles:		
Clearing track, $200 per mile	$2,400	
Embankment, 4½ ft. at, 10c. per yard	22,800	
Extra for culverts	1,000	$26,200
Section 2.—Edge of prairie to Northcut Cypress, 8 miles:		
Clearing track	200	
Embankment, 12 inches	2,400	
Culverts	200	2,800
Section 3.—Northcut Cypress, 2 miles:		
Cutting timber, &c	1,000	
Embankment, 2 feet, at 15 cents per yard	2,300	
Bridges $500 each	1,000	4,300
Section 4.—Sandy Woods, 3 miles:		
Clearing track	300	
Embankment, 18 inches, at 10 cents	1,200	
Culverts	1,000	2,500
Section 5.—Lake St. John (a marsh), 1 mile:		
Clearing	100	
Embankment, 4½ feet	1,900	
Culverts	500	2,500
Section 6.—Big Prairie, 3 miles:		
Clearing track	100	
Embankment, 12 inches	900	1,000
Twenty-nine miles		$39,300
Section 7.—Big Swamp, 9 miles:		
Clearing, $500 per mile	4,500	
Embankment, Nigger Wool and other low places, 3 miles, 9 feet	45,100	
Residue, 6 miles, 4½ feet	11,400	
Bridge on Little River, 250 feet long	2,000	
Bridge on Castor River, 200 feet long	2,000	
Bridge on Running Slough, 160 feet long	1,000	
Culverts in Nigger Wool, &c	1,000	67,000
		$106,300

AVERAGE FOR ROAD BED.

Ohio City to Swamp, 29 miles..... .....$1,400 per mile.
Across Swamp, 9 miles..... 7,450 "
Whole line, 38 miles..... 2,800 "

SUPERSTRUCTURE PER MILE.

Estimate of Pacific R. R. rail, 65 lbs. per yard, with 1-17th added for turnouts.....$7,400 "
Estimate of H. Cobb, Esq., made last January for Iron Mountain road with same rail, with necessary sidlings and switches..... 7,500 "
Estimate of Warsaw and Rockford Railroad, furnished by P. E. Bland, Esq., of St. Louis, with best rail, &c..... 9,632 "
As the difference is mostly in the price of iron, and as we get our ties and other timber cheaper, we estimate at ..... 9,000 "
Average cost of road to swamp, when finished ...10,400 "
" " across swamp.....16,450 "
" " whole road.....11,800 "
Total cost, 38 miles.....448,400 "

We have calculated the distances of some of the principal points, so that others could make their own estimates, should they choose to do so.

From Charleston to Ohio City.....13 miles.
" " " Columbus .....17½ "
" " " ferry below Mills Point.....25 "
" " " Dr. Ward's landing above Mills Pt.21¼ "
" " " Bloomfield .....33½ "
" " " Sec. 12, T. 26, R. 11.....26 "
From Sec. 12, T. 26, R. 11, to Chalk Bluffs.....33¾ "
" " " " Iron Mountain .....62½ "

These distances are air lines.

We would here remark, by way of explanation, that the estimate of Mr. Cobb, above alluded to, was founded on the report of Mr. Barney.

Gen. Gibbs, of Tennessee, addressed the Meeting on the subject of Railroads.

On motion of the Rev. T. B. Fuqua, the report of the Committee was unanimously adopted.

Resolved, That we are in favor of carrying out the plan proposed by Congress for the Cairo and Fulton road, and also the extension of the Iron Mountain road to the river, and we pledge this county to assist in their completion by every means in its power.

Resolved, That we fully believe that the road bed through this county and Scott, can be made for less money than the estimate

of the Committee, though we approve their course, of erring, if at all, upon the safe side.

Resolved, That George Whitcomb, A. M. Bedford, John C. Thomas and Judge Noah Handy be appointed a Committee of Correspondence to obtain such information as may be necessary for unity of action among those interested in the several roads.

Resolved, That we wish the friends of both roads to take notice that we, upon this end of the roads, are up and doing, and that we expect them to do likewise.

Resolved, That we return our thanks to Mr. Ford, Engineer of the Pacific Road, and P. E. Bland, Esq., of St. Louis, for their kindness in furnishing our Committee with data and estimates.

Resolved, That all papers friendly to both roads be requested to publish our proceedings, and that the County Court be requested to cause the same to be published for the use of our citizens.

The meeting was then addressed by Robert Waide, Esq., upon the subject of Railroads and their advantage to the country.

On motion of Geo. Whitcomb, Esq., the thanks of this meeting were tendered to Gen. Gibbs, for his able address on this occasion.

After which, the meeting adjourned *sine die*.

NOAH HANDY, President.

JOHN C. THOMAS, Secretary.

Railroads in Arkansas.

Good fortune brings friends. The United States Railroad Survey through Arkansas, the grant of lands for railroads throughout the length and breadth of the State, the energetic and liberal action of the people along the Cairo and Fulton line, the engagement by the C. & F. R. R. Co. of THOS. S. O'SULLIVAN, Consulting Engineer, and of JAMES S. WILLIAMS, Engineer in chief, with two corps to survey the route immediately, and the moral force of surrounding circumstances combined with the cautious management and dispatch of business which characterize the C. & F. R. R. Co., have given the Cairo and Fulton Railroad a commanding position and secured its fortune as the main trunk road in the State.

These considerations maintaining and promoting the interests of the Cairo and Fulton Railroad, the friends of other roads in the State find that they can injure it much less than it can do them good; and now, therefore, it may be reasonably expected, as it is also significantly foreshadowed by the Railroad meetings in various parts of the State, that a large majority of the people are rapidly

becoming attached to the main trunk, that they desire their favorite branches to be grafted on it, in order to derive radical support, and realize the fruits of their enterprises in the shortest possible time. One instance of the good the Cairo & Fulton Railroad Co. are doing for all the other railroad enterprises in Arkansas, is in the publication of a map now being engraved by JULES HUTAWA, of St. Louis, showing the route of their road, the Helena & Memphis routes to Little Rock, the two routes from Little Rock to Fort Smith, one north and one south of the river, the Gaines' Landing and Fulton route, the New Orleans and St. Louis route, together with a vast variety of other railroad routes, co-operating in an eminent degree to promote the prosperity of the whole State of Arkansas.

Other instances of material assistance, to the various railroad enterprises in Arkansas, will frequently occur, flowing from the liberal and richly stored mind of the consulting and of the chief Engineer, of the Cairo and Fulton Railroad.

Iron Mountain Railroad.

This company has met with formidable obstacles impeding the right of way along the Mississippi from St. Louis to the Meramec river, obstacles raised not only by private landholders, but also by the War Department of the United States. The War Department, however, proves less formidable than private land-holders. The former has reasoned and proposed tolerable though still unreasonable terms. The latter stubbornly persist, with exorbitant demands which if universal along the route would be unsurmountable. If the company cannot overcome these obstacles, and attempt to get around them, the right of way will be more liberally obtained. In the mean while the work under contract will progress at points beyond those where the difficulties exist, and by working around them, in time, the road may be brought into the city an easier way.

Two corps of engineers are now surveying routes south of the Iron Mountain, with instructions to explore the whole country bordering the line of the extension to the Mississippi and to the Arkansas line.

The Cairo and Fulton R. R. Co. having organized two corps of engineers for the survey of that road, and having made preliminary arrangements for a third to co-operate with the Iron Mountain R. R. Co., the number is thus increased to five corps on the route from Red river to the Iron Mountain. These movements inspire additional confidence in the continued prosperity of both roads.

Hannibal and St. Joseph Railroad.

Col. R. M. STEWART, the prudent and energetic President of this company, returned from New York on the 18th September, having made satisfactory arrangements for means to prosecute the work. The Board of Directors will meet on the 3d, and the Stockholders of the company on the 7th of November next, at Chillicothe. The people of North Missouri should do all in their power to build this road out of their own means; as the Grant of Congress will secure a premium for the stock, and the business of the road will repay large dividends. We are pleased to notice the genial influence exerted by this enterprise, near the heart of North Missouri, as appears by the following item taken from the *Trenton Pioneer*.

CHILLICOTHE.—Duty called us to this prospering town and neighbor of ours a few days ago, and we were surprised as well as gratified to witness the effect the Railroad has had on it. The time has been, when some were loud in their predictions of the downfall of Chillicothe; but if such opinions were seriously entertained, it needs but a glimpse of the place now, to convince all that they were "false prophets;" and if she ever was in the ashes, she has arisen, Phœnix like, and donned the garb of prosperity, energy and industry. The improvement of Chillicothe, within the past two years, is unparalleled in the history of country villages, and she now stands prominently, as a place of much importance in the business world. There are several steam saw mills in the vicinity of this place, and everything around, gives flattering evidence that the motto of the people is "onward."

North Missouri Railroad.

On the 6th September, 1853, the first division of this road was located from St. Louis to St. Charles; and on the 15th of Oct., thirty proposals were made to build this division, the most of which proposals are held under consideration. On the last mentioned date the two corps of engineers, one having started from the Iowa boundary, and the other from St. Charles, met in the town of Mexico, Audrain county. They will survey different routes that the character of the country may be fully disclosed, and the most practicable route discovered.

Pacific Railroad.

On the 24th day of October, 1853, the tax-payers of St. Louis county voted on the proposition of the County Court, whether the county should subscribe $300,000 to the capital stock of the company, raising the total subscription of the county to this road to $500,000, and the result was 3,724 votes for, and 862 against the subscription; majority 2,862 in favor. The amount of city and county subscriptions of St. Louis to the Pacific Railroad is now $1,000,000, which with the private subscription in St. Louis $605,000, amounts to $1,605,000. This fact must arouse the people of the other counties along the line to subscribe their proportionate shares, and carry on the road out of their own resources.

Alton & New York Railroad Connexion.

On the 17th October, 1853, the Railroad connexion between the cities of Alton and New York — between the Mississippi river and the Atlantic ocean—was established. The Chicago and Mississippi R. R. Co. advertise that passengers can be transported from New York to St. Louis in 60 hours, and from Chicago to St. Louis in 20 hours. We are informed that a trip from New York to St. Louis, *via* Railroads to Alton, was made in 57½ hours, and from Chicago to St. Louis in 19 hours. This connexion will accumulate trade as well as travel on the northern route, and greatly enhance the profits on the whole line. Passengers leave St. Louis in the morning at 7 o'clock and, after ferrying the river to Alton, take the cars on the Chicago and Mississippi R. R. to Bloomington, then on the Illinois Central to Lasalle, then on the Chicago and Rock Island to Chicago, then on the Northern Indiana and Southern Michigan to Toledo, and so on, by the Lake shore and New York Railroads, and arrive at New York city in less than 2½ days.

COMMERCIAL STATISTICS.

[From Hunt's Merchants' Magazine.]

Revenue of the United States for the Fiscal Year ending June 30th, 1853.

	From Customs.	Public Lands.	Miscellaneous.	Total.
First quarter	$15,723,935 71	$415,945 91	$201,450 10	$16,341,331 72
Second quarter	11,307,465 45	243,587 16	33,818 37	11,584,870 98
Third quarter	16,208,498 82	422,030 70	172,555 50	16,803,085 10
Fourth quarter	15,691,965 54	585,521 14	344,299 92	16,624,636 60
1853	$58,931,865 52	$1,967,084 99	$752,123 89	$61,353,924 40
1852	47,339,326 62	2,043,239 58	345,820 69	49,728,386 89
1851	49,017,567 92	2,352,305 30	943,106 65	52,312,279 87

This comparison will enable us to make a closer estimate of the total dutiable imports for the last fiscal year, than the one previously given:—

	Rec'd from Customs.	Dutiable Imp's.	Free Goods&Specie.	Tot. Imp's.
1852	$47,339,326 62	$183,252 508	$29,692,934	$212,945,442
1853	58,931,865 52	228,127 710	30,000,000	258,127,710

Foreign Imports at New York for 8 months, from January 1st.

	1850.	1851.	1852.	1853.
Entered for consumption	$72,288,772	$82,041,898	$72,209,450	$110,347,159
Entered for warehousing	11,659,644	9,845,001	5,916,630	15,813,888
Free goods	6,207,603	6,803,459	9,335,327	10,336,526
Specie	12,522,173	1,666,979	2,085,165	1,611,231
Total imports	$102,678,192	$100,357,337	$89,546,572	$138,108,804
Withdrawn from warhouse	7,094,156	8,132,230	10,925,568	9,972,966

Exports from New York to Foreign Ports for Eight Months, ending August 31st.

	1850.	1851.	1852.	1853.
Domestic produce	$27,428,526	$28,904,460	$27,452,183	$34,845 630
Foreign merchandise [free]	463,299	396,630	588,442	1,090,526
Fo. merchandise [dutiable]	3,070,365	2,600,688	2,966,285	2,865,901
Specie	5,413,548	27,771,129	18,531,341	13,763,567
Total exports	$36,375,738	$59,672,907	$49,538,251	$52,565,624
Total, exclusive of specie	30,962,190	31,901,778	31,006,910	38,802,057

Comparative Deposits at the Philadelphia Mint for the first eight months of the year, and the shipments from San Francisco:—

	Deposited at Philadelphia Mint			Shipments from S. Francisco.	
	1851.	1852.	1853.	1852.	1853.
January	$5,071,669	$4,161,688	$4,962,962	$2,905,770	$1,821,604
February	3,001,970	3,010,222	3,518,523	1,770,122	5,731,273
March	2,880,271	3,892,156	7,533,752	2,173,304	4,810,818
April	2,878,353	3,091,037	4,766,000	3,467,293	7,660,851
May	3,269,491	4,335,578	4,425,000	5,470,923	2,776 574
June	3,637,560	6,689,474	4,545,179	3,570,266	6,198,432
July	3,127,517	4,193,880	3,491,000	4,119,509	4,132,601
August	4,135,312	2,671,563	5,372,000	3,608,303	4,705,582
Total	28,002,143	32,045,598	38,644,416	27,085,490	37,837,735

LITERARY DEPARTMENT.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

Continued from page 341, vol. X. No. 65.

This is a curious relic of frontier adventure; it is full of particulars of the hardships of Indian life, as well as the dangers and difficulties of a woodman's carreer. Its author was, afterwards, long distinguished in the councils of Kentucky.

The next class of explorers was not from Virginia or Pennsylvania by the route of the Ohio river; but from North Carolina, by the way of the Cumberland Gap, one of the celebrated routes through the wilderness. These may have been traders with the southern Indians, for peltries, which have ever been a subject of eager traffic on the frontiers. There was a route called the warrior's road or path (it is delineated in Filson's map of Kentucky,) "leading from the Cumberland ford along the broken country, lying on the eastern branch of the Kentucky river, and so across the Licking (river), toward the mouth of the Scioto."* It was much frequented by the northern and southern tribes in their passage through Kentucky, whether for the purposes of war or of hunting. Along this line of communication, it may be supposed, that *John Finley* was engaged in traffic with the Indians as early as 1767. Certain it is, that Daniel Boone received his first information respecting Kentucky from Finley, upon his return to North Carolina, where they both lived. It was not, however, till May, 1769, that Boone left his home, on the Yadkin river, in North Carolina, in quest of the famed hunting grounds of Kentucky. To do this, he and his five companions, John Finley, John Stewart, Joseph Holden, James Moncey and William Cool, were compelled to pass the broad mountain chain ridge, which separates the Atlantic waters from those of the Mississippi. After thirty-eight days of travelling, without any of the appliances of modern locomotion, but in bare woodman's costume.

This primitive route, through all the hardships, difficulties and dangers of a mountainous wilderness—the uncontested domain of the Indian, led across the vallies of the Holston and Clinch rivers, to the head waters of the Cumberland or Shawnee river; thence along the Warrior's Path, previously mentioned, by the Cumberland ford, over the head waters of the Kentucky river, to its eastern branch or Red river. But let us listen to his own words dictated to John Filson :† "We proceeded successfully, and after a long and fatiguing journey, through a mountainous wilderness, in a western direction, on the 7th day of June (1768) following, we found ourselves on Red river, the northernmost branch of the Kentucky river; where John Finley had

* Annals, p. 114.

† See Filson's Kentucky and Amer. Biog., XXIII.

formerly been trading with the Indians, and from the top of an eminence we saw with pleasure the beautiful level of Kentucky." The first impressions made upon these rude, but skilled observers of nature, can but be interesting to their descendants, and the millions who have profited by their hardy enterprise. "We found everywhere abundance of wild beasts of all sorts through this vast forest. The buffaloes were more frequent, than I have seen cattle in the settlement, browzing on the leaves or cropping the herbage on these extensive plains."* The luxuriant canebrakes, the luscious pasturage of Kentucky, its numerous streams stocked with fish, and, above all, its salt licks, rendered it a most favorite haunt of the game of the forest. Such is the universal description of the pioneers; no terms seemed grand enough to describe the fertility, the luxuriant growth and superabundant game of this Sylvan El Dorado. Is it, then, wonderful, that the Indian should adhere pertinaciously to his claims on this great natural park? It was the garden spot of the red man.

The party continued "hunting with great success, until the 22d of December, 1769;" when shortly after this, John Stewart, one of Boone's North Carolina companions, was killed by the Indians. He appears to be the first, so far as is known, of the numerous victims slaughtered in Kentucky by the Indians during their long, desperate and ruthless struggle with the white man, for their beautiful hunting grounds. This frontier war survived the revolutionary contest with Great Britain; and raged from the battle of Point Pleasant, in 1774, to that of the Maumee, under General Wayne, in 1794. Still, our author says, that he, and his brother Squire Boone, (who had reached the country some time before with supplies for his roving relative,) continued during the winter undisturbed by the Indians, until about the 1st of May, 1771, when they both returned to North Carolina.

But the solitude and danger of an Indian wilderness could not deter the heroic hunter from visiting the country again, under more propitious circumstances. Exploration of the wilderness seemed the ruling passion of Boone's soul. This was much assisted by the trodden paths and roads made by the wild beasts, and particularly the buffaloe, which lay in their way; in this manner they were led to many of the salt springs; at which salt has since been made for the consumption of its present inhabitants.† The fondness of the wild game for salt is as great, and the condiment as necessary to the game of the forest, as to the domestic herds and quadrupeds. During 1770, a party of about forty stout hunters, "from New River, Holston ond Clinch," united, "for the purpose of trapping, hunting and shooting game, west of the Cumberland mountains." "Nine of this party, led on by Col. James Knox, reached Kentucky, and from the time they were absent from home, obtained the name of the *Long Hunters*." This expedition reached the country south of the Kentucky river; and became acquainted with Green river, and the lower part of the Cumberland.‡ In addition to those parties, naturally stimulated by the ardent curiosity and love of daring novelty incident to early and

* Filson.

† Marshal's Kentucky, vol. 1, 9.

‡ Idem.

comparatively idle society; the claimants to military bounty lands which had been promised from the British crown for services against the French, furnished a new and bold band of western explorers. Their land warrants, issued under the authority of Lord Dunmore, were surveyed on the Kenhawa and the Ohio, as early as 1773; though most positively against the very letter of the royal proclamation of 1763.* They were surveyed on the site of the present cities of Louisville and Frankfort, in Kentucky, and through the adjacent country. Even General Washington visited the Kenhawa, in 1770, for the purpose of locating western land claims. His journal† shows the rapidity of settlements down the Ohio river, as low as the Kenhawa.

Amongst others, Thomas Bullitt, (uncle to the late Alexander Bullitt, who became the first Lieutenant Governor of Kentucky,) and Hancock Taylor, engaged in this adventurous surveying.

These gentlemen were overtaken on the Ohio river, on the 28th of May, 1773, by the McAfees. This party, consisting of James, George and Robert McAfee, James McCoun, Jr., and Samuel Adams, left Sinking Creek, in Bottetourt county, Virginia, and descended New River to the Ohio in canoes. Captain Bullitt was elected captain of the company, which continued together until they reached the mouth of the Kentucky river. At this point, Capt. Bullitt proceeded on to the Falls of Ohio; and the McAfees, with Taylor, ascended the Kentucky, or Levisa, (possibly a corruption of Louisa, which name had been attached to the Kentucky.) The adventures of these hardy adventurers well deserve to be enlarged upon.

On the descent of the Ohio river, Bullitt undertook to visit‡ the Indian town of old Chilicothe, on the Scioto. He proceeded through the woods, and arrived undiscovered by the Indians, until he was waving a white flag, as a token of peace. He was soon asked what news, and if came from the *Long Knife*, (the Indian appellation of the Whites,) as a peace messenger, why he did'nt send a runner? "Would you," said he, "if you were very hungry, and had killed a deer, send your squaw to town to tell the news, and wait her return, before you eat?" This simple address to their own feelings, soon put the Indians in good humor; and at his desire a council was called to hear his talk the next day. Captain Bullitt then made strong assurances of friendship, on the part of the whites; acknowledged that these "Shawanees and Delawares, our nearest neighbors" "did not get any of the money, or blankets given for the land which I and my people are going to settle. But it is agreed by the great men, who own the land, that they will make a present to both the Delewares and the Shawanees, the next year; and the year following that shall be as good." On the ensuing day, agreeably to the very deliberate manner of the Indians, in council, Capt. Bullitt was informed that "he seemed kind and friendly, and that it pleased them well. That as to settling the country on the other side of the Ohio with your people, we are particularly pleased that they are not to disturb

* Henning, VII, 687.

† Spark's Wash., II, 516.

‡ Butler's Kentucky, 2d Edit., p. 21.

us in our hunting. For we must hunt to kill meat for our women and children; and to get something to buy our powder and lead with; and to get us blankets and clothing." In these talks, there seems a strange want of the usual sagacity of the Indians as to the consequences of white men settling on their hunting grounds, so contrary to their melancholy experience for a century and a half previous. Yet the narrative is unimpeachable.* However this may be, the parties separated in perfect harmony; and Capt. Bullitt proceeded to the Falls of the Ohio. Here he pitched his camp above the mouth at Bear Grass creek, retiring of a night, to a *shoal*, above *Corn Island*, opposite the present city of Louisville.†

Another surveyor, by the name of James Douglas, followed Capt. Bullitt during the same year; and on his way to the Falls of Ohio, landed near the celebrated collection of mammoth bones which still goes by the emphatic name indicative of its contents—the *Big Bone Lick*, now situated in the county of Boone. This is the same collection noticed by Col. Croghan, in his descent of the Ohio, in 1765.‡ The latter gentleman speaks of the access to the Lick being by a "large road which the buffaloes have made spacious enough for two wagons to go abreast." Here Douglas remained forming his tent-poles of the ribs of the enormous animals which formerly frequented this remarkable spot; and on these ribs, blankets were stretched to form shelter from the sun and the rain. Many teeth were from eight to nine, and some ten feet in length; one in particular, was fastened in a perpendicular direction, in the clay and mud with the end six feet above the surface of the ground; an effort was made by six men, in vain, to extract it from its mortice or bed. The Lick extended to about ten acres of land, bare of timber, grass or any kind of herbage. It was much trodden, eaten for the saline particles, and depressed below the original surface; with here and there a knob remaining, like the pillars of earth left by excavators, to show the former elevation of the surface. Thus a period seems to be indicated, however, indefinitely, when this resort of numerous animals had not taken place. Through the midst of the Lick ran a creek, and on each side of it, a never failing stream of salt water, whose fountains were in the open field. To this Lick converged from all parts of the neighboring country, roads made by the wild animals, which resorted thither for the salt contained in the earth and the water of the Lick.

When the McAfees visited this Lick, in 1773, with Captain Bullitt, several Delawares were present; one of these being questioned by James McAfee about the origin and nature of those extraordinary bones, replied, that they were then, just as they had been, when he first saw them, in his childhood. Yet this Indian appeared to be at least seventy years of age. Collections of similar bones of animals, which have ceased to tenant the earth, are now familiar not only in the United States, but in other parts of the world; but none exceed,

* McAfee's papers.

† It was this gentleman who, according to the testimony of Jacob Sodowsky, a respectable farmer, late of Jessamine county, Ky., *first* laid out the town of Louisville, in August, 1773; and likewise surveyed Bullitt's Lick, in the adjoining county, of the same name.

‡ See Appendix.

it is believed, the one in question of the bones of the mammoth or mastodon.

In addition to these encroachments of the whites, on the hunting grounds of the Indians, the honesty of history requires the confession of repeated outrages upon the rights of the native tribes, which the popular hatred would not suffer the government to punish. These enormities have sunk into deserved oblivion, and are now only adverted to, that the justice of history may be preserved. Many of the inhabitants now retired into the interior of the colonies.

Some Thoughts on Self Intellectual Culture.

BY A MEMBER OF THE KEOKUK (IOWA) BAR.

Continued from page 440 of preceding volume.

The mind's powers and faculties are really and truly wonderful, and they belong to us for exalted purposes: for education, for expansion, for raising up and purifying our moral nature, for developing and energizing our intellectual nature, for becoming great and good ourselves, for rendering others great and good, for the exercise of benevolence and the increase and spread of knowledge, for promoting the beneficial interests of society, for usefulness *here*, and happiness *hereafter*. The design is intellectual progression, social elevation, and moral and civil freedom. And he who neglects the educating his mind, he, who persists deliberately in grovelling in the depths of ignorance, he who overlooks the numberless opportunities which the age and country permit for mental instruction and advancement, is guilty of a violation of positive duty, forgets his own most precious interests, and brings a voluntary degradation upon himself, and those connected with him in the various relations of life.

And we may add that it is through these faculties of the mind, and their close connection with man's highest happiness, that we hope to lay wider and stronger the foundations and elements of all practical science and useful acquirement among the great masses of the people, to establish and build up and cement the mighty fabric of education, and to mould it in the forms of beauty and excellence, until it shall embrace within its portals every mind to be improved, and protect beneath its canopy every circle of humanity; and thus pour floods of enlightened thought and general intelligence and individual power and civil freedom over the length and breadth of our favored land.

Having sufficiently established for our present purpose, the necessity of intellectual culture, and its intimate connexion with our constitution and happiness, the inquiry naturally suggests itself: How is this culture best to be promoted?

In a young and growing country, like our own, blessed with a fertile soil and salubrious clime, embracing a population deversified in its character, robust in its constitution, adventurous in its enterprize, conflicting in its habitudes of thoughts, and without a fixed literature, and posssessing institutions as yet in a state of infancy and probation, their organizations immatured, their capacities undeveloped, and the adequacy of their means to satisfy the growing wants of our people but imperfectly established—this question has a more than ordinary application and significance. The question is not, *how* we shall construct literary and scientific institutions on broad foundation and of solid structure, *hereafter* to become illustrious on the matriculation and graduation of rich and ripe scholars—*not how* we shall enlarge the boundaries, and elaborate the symmetry and proportions of knowledge—*not how* the exclusive minister at the altar of learning may be elevated and refined, and rendered still more prominent—*not how* the distinctions between the learned and unlearned shall be preserved ;—but *the inquiry is*, *how* the public schools may be endowed reaching every class of our fellow citizens, and diffusing their influences, like the genial dews of heaven, upon all ; *how* means shall be multiplied to meet the present wants and emergencies of an active, adventurous and growing society ; *where and how* stimulants may be procured to excite the public mind to active and renewed and vigorous effort in the cause of public instruction; *in what manner* we shall seize upon the mental faculties of our youth, and throw them into direct collision with the elements and higher departments of learning, and compel them to rest upon their own native energies in the great conflict of existence; and *which* are the most efficient and available instruments in our power to accomplish the great purpose of disseminating intelligence, of penetrating the fastnesses of ignorance, of throwing open to every man, woman and child the whole empire of knowledge, of raising up and educating the broad, deep accumulated mass of uninstructed mind so affluent in capabilities that exists around us, and of pouring abroad over the whole bosom of society the lights of learning and science and morality.

This constitutes our appropriate field of investigation ; and I enter upon it with a profound conviction of its magnitude and importance. I wish to impress the conviction upon the mind and heart of my readers with a force and clearness correspondent with my own, of the indispensable and paramount necessity of educating the minds of all our youth in the rudiments and general outlines of knowledge, if we really and sincerily wish to promote their true happiness, and establish their prosperity and preserve in their vigor and integrity the civil, religious and social institutions of our beloved country.

In the discussion of this interesting subject—covering as it does an extensive field of thought—my observations must necessarily

be general, and confined to the presentation of a sweeping and comprehensive outline of the subject. I shall, in the first place, allude to some of the means of mental improvement, substantially within the reach of all; secondly, present some views on self culture and the more important studies to be selected; and thirdly, endeavor to interest the young reader in the pursuits of learning, by exhibiting the encouragements that animate, and the rewards and compensations that most assuredly follow all intellectual effort of whatever mould, when judiciously directed and diligently pursued.

First.—Of the means of self-culture.

The system of common schools so generally adopted in our country, presents the most prominent element in the history of public instruction. It is so interwoven with our civil polity and social prosperity, as to have become a conservative portion in our political fabric, indispensable to its solidity, its permanency and its beauty.

I have neither time nor disposition, to present even an outline of the history of our public schools, nor is it necessary. The materials are too diversified, and reach back over too broad a period of time, for my present purpose, nor would the result be sufficiently instructive to compensate for the labor.

Their general usefulness is, I believe, universally acknowledged. On this ground all parties meet. The enviable condition of our country triumphantly vindicates their utility. The genius of our political constitutions, and the spirit of our people, are so consonant with enlightened mind, and so intimately allied with the progress of letters and sound education, as to render them mutually indispensable to the perfection of man's condition. Indeed, public instruction, in connection with moral development, constitute the solid pillars on which our national independence and prosperity repose with perfect security. The desire of the patriot and statesman is not to destroy or impair our admirable system of common schools; but to perfect its organization, introduce new improvements, and extend its beneficial influences until every member of this Republic shall be elevated through its power. In this point of view the subject is one of pervading importance to us. How we shall improve it? How we shall through this medium extend knowledge to all? How we shall elevate the character and attainments of the scholarship sought after here? How respectable and enlightened individuals may be induced to give more efficient aid and patronage to public schools? How far, and in what manner, government may judiciously interpose? And how we may permanently engraft upon the mind of this rapidly populating country the ground work and elements of a sound, useful and practical information? Are questions of vital interest to our well-being and permanent prosperity. They ought to be carefully and patiently investigated. The systems of other States and nations ought to

be examined and compared. Legislative influence should not only be invoked, but demanded. The public encouragement of education is an absolute right belonging to the citizen, and consequently imposes an imperative duty to be discharged by the Legislature. And this corresponding relation of right and duty, of justice and obligation, not only exists, but its exercise creates a higher and transcendent obligation. And that Republic is faithless to its duty, faithless to its best interests, faithless to every moral and christian impulse, which does not liberally, steadfastly and diligently cherish and support a well organized system of common schools. The qualifications of a teacher, the books to be selected, and the studies to be pursued, are matters requiring careful thought and judicious regulation. It is cheering to know that these topics are in process of thorough examination throughout our country, and that a healthy tone of sentiment prevails in reference to general education.

Another striking feature of the age is the increasing and transcendent influence of the press. Books, magazines, reviews and newspapers are multiplied with a rapidity, and distributed with a diligence, almost surpassing human conception. They are afforded too, at a rate so cheap, as to bring them within the reach of all. The most instructive and interesting portions of the entire acquisitions of science and literature and art are published in cheap, neat and attractive forms. In the present age it is within the power and ability of every community to possess a well selected and reasonably extensive library which will afford competent instruction in every department of human knowledge. By voluntary association and small subscriptions a valuable library accessible to every one may be acquired, enriching all with its treasures, and exhausting them not, pouring light into the abodes of darkness, bringing minds into close and pleasing intercourse with each other, eliciting temperate discussions, and binding neighborhoods mor eclosely together in the bonds of kindred thought and association and sympathy. The comparative ease and facility with which libraries may be formed at the present day, contrasts most strikingly with the enormous expense and almost insuperable difficulty of doing so a few centuries ago. Individuals of this generation, when the press multiplies and throws abroad so many excellent productions with such rapidity and cheapness, cannot sufficiently appreciate the vital importance and inestimable privileges conferred upon society and the public mind and heart by modern libraries. It is difficult to realize and comprehend fully the vast moral, social and governmental revolutions which have been effected through the instrumentality of the press, acting as it does in every walk in life, upon the absolutism of tyranny as well as upon the masses of democracy, beneath the shades of the academy and amid the retreats of the cloister, as well as in the legislative hall, the judicial forum,

the workshop, the common school, and the tribune of the people, the political arena.

Before the invention of printing, when all literature and science must necessarily have existed either in manuscript or in tradition, collections of books were exceedingly limited and immensely valuable. It presents to the mind a most curious and instructive picture to examine into the early libraries even so recently as the 15th and 16th centuries, and to compare their paucity and poverty, and even puerility, with the extent, variety and richness of those of our own day and generation.

A discursive glance at the past will impress our minds with the great and preeminent advantages we possess in this day of action and progression over our ancestors. The consideration of this subject ought to swell our bosoms with emotions of gratitude, that our lot is cast in an age so intelligent and in a country so free.

The first national library, it is supposed, was founded in Egypt, and according to a learned author seems to have been placed under the protection of the Divinities, for their statues most magnificently adorned the temple consecrated at once to Religion and Literature ; thus beautifully blending the holy inspiration of the christian spirit with the purifying influences of cultivated mind and refined taste.

The Egyptian Ptolemies founded the library of Alexandria, so justly distinguished for the number and value of its works ; and which afterwards met with such a melancholy and unexpected fate amid the ruthless devastations of war, while the star of the mighty Caesar was in the ascendant, and the Roman eagle was bathed amid the living glories of one illustrious triumph.

Pisistratus founded the first Grecian library, and Asinius Pollio the first public one in Rome. When the Roman empire became so enormous and overshadowing as to triumph over Greece, dispoil her of her magnificent trophies of genius and of art, and disrobe her of the richest habiliments of her intellectual creation, a passion existed among her citizens for the accumulation of immense collections of books, among whom Crassus, Caesar and Cicero were the most distinguished ; and these illustrious Romans became not more celebrated for their magnificent libraries than for their literary refinement and profound erudition. Lucullus, whose princely opulence enabled him to indulge his taste for true learning, and whose enlightened mind taught him to appreciate the value of books, collected a vast and costly library, "whose walks, galleries and cabinets," as Plutarch observes, "were open to all visitors."

The ancients, says D'Israeli, bestowed the richest ornaments on their libraries: their floors were paved with marble, their walls covered with glass and ivory, and their shelves and desks made of ebony and cedar.

In Italy the first public library was founded by Nicholas Niccoli, a merchant of that State. The Arabians and Moors, the Ital-

ians, English and French, all encouraged in a greater or less degree the formation of libraries through the period of the dark ages when the human mind seemed to be almost impenetrably enshrouded in ignorance and superstition; and a broad dark cloud rested on and cast its shadow over the entire field of science and literature.

Let us turn aside the curtain of the few past centuries, and look into some of the libraries existing during the dark or middle ages, and contrast their voluminousness and value with those of the present age. This retrospective glance will not be without interest and instruction.

In 1341 the Bishop of Durham raised the first private library in Great Britain. It contained between *thirty and forty volumes*, and he paid for it, as we are credibly informed, *fifty pounds weight of silver*. This was at that period an exceedingly extensive and valuable collection, insomuch that a treatise was published in its praise.

In 1364, the Royal Library of France contained only *twenty volumes*, four of which were classics, and the remainder were principally books of devotion. In 1840, the same library embraced 480,000 volumes of books and manuscripts. Up to the beginning of the 16th century, England and Germany made very indifferent progress in science, literature, and the establishment of libraries, and Mr. Hallam, the distinguished historian, informs us, that a German named Tithemius had in 1526 collected about 2,000 manuscripts, a literary treasure which excited such extraordinary attention that princes and eminent individuals travelled long distances to visit it. At this period of time, 600 or 800 volumes constituted a library which royalty alone with princely revenues could command.

The Oxford library, in 1300, consisted of "a few tracts kept in chests," and as late as the 15th century only contained 600 volumes; it now numbers over 430,000 volumes.

The statutes of the new college at Oxford furnish a remarkable illustration of the value and scarcity of books in the 15th century. One of these statutes provided that "no man should occupy a book in the library above one hour or two at most, that others might not be hindered in the use of the same." And even as late as 1471, when Louis II., king of France, borrowed the works of an Arabian physician named Rhasis, from the medical faculty in Paris, he was required and did actually deposit as security for their safe return, not only an immense quantity of valuable plate, but was also compelled to procure a nobleman to join with him in a deed covenanting under a large forfeiture that they should be safely returned.

In the present age, the libraries of France are supposed to surpass those of any other nation or empire in number and value. Even England, with all her commercial affluence, royal munificence and imperial pride, in the grandeur, extent and solidity of her lit-

erary and scientific institutions, is behind the country of Charlemagne and Napoleon.

The most extensive and valuable libraries of our country are those of Harvard, containing in 1840 about 40,000 volumes, Boston Athenaeum 29,000 volumes, Philadelphia 30,000 volumes, Congress 28,000 volumes, New York Society Library 40,000 volumes, and the New York Mercantile Library embracing about 25,000 volumes

We are a vast distance behind Europe in the endowment of our libraries, as we possess none exceeding in 1840 about 40,000 volumes, whilst there are libraries at St. Petersburg, Vienna, Paris, Munich, Goettingen, Dresden, Copenhagen, Berlin, Rome and London, ranging from 300,000 to 500,000 volumes each. The public libraries of Paris alone number about 250,000 different volumes, and the aggregate of the public libraries in France, it is estimated, amounted in 1840 to 4,500,000 volumes.

Let us not from this representation of the intellectual opulence and gigantic proportions of the libraries of Europe be discouraged in regard to our own country. Our republic is young in the history of nations. But an age has elapsed since she ranged herself among the independent sovereign powers of the world. There are those yet living in our midst who listened to her earliest voice in the cause of freedom, and witnessed the glorious standard of the Republic when it was first unfurled to the breeze, amid the prayers and acclamations of a brave and free people who gave it

"to the God of storms
The lightning and the gale."

Time has not yet matured our destiny. Labor and wealth and mind have not yet completely modelled and consolidated our power. Vast intellectual opulence springing from a superabundance of individual wealth has not yet hewed out the future colossal architecture of our literary and scientific institutions, nor has genius and taste had leisure to bathe themselves in the crystal depths, or array themselves in the peerless glories of a national literature, constructed from the treasures of enlightened mind, acting under the influences of republican government, and crowned with the imperial diadem of civil and religious liberty. Our growing energies have yet to reach their full maturity and greatness and complete development. We are marching onward in our course with a rapidity unprecedented in arts, science, religion, civilization, and in all which elevates, humanizes and refines. Manufactures are springing up around us, and their machinery is working and toiling for us by night and by day: agriculture is opening her boundless wealth and accumulating her varied productions to feed, to clothe and to enrich: commerce is busy in every city and town, and whitening with its canvass every lake and ocean, spreading abroad the comforts and conveniences and luxuries of life: the mechanic arts are in a highly advanced state of perfection, and beyond all and above

all, there is an amount of solid intelligence and of full vigorous thought and of practical sterling judgment and of indomitable energy and enterprize among our people connected with all these, unequalled in any other country. A mighty empire is indeed established which it is our duty to consolidate, to adorn and to transmit unimpaired through future generations.

Libraries, among us, are increasing in number and value with a great and praiseworthy rapidity; and if they are not equally imposing and princely in their character and magnificence with those of transatlantic birth, yet they possess an immeasurably transcendant practical and political value; and are disseminating among us in every vale and town and city the choicest gems and most exalting and cherished influences of literature and philosophy and intellectual refinement and civil and political wisdom.

In the State of Yew York, there are in her common school libraries about 1,500,000 volumes—all valuable and interesting in their character—adapted to the wants and tastes of the rising generation, and admirably designed to develop and cultivate the moral and social affections, and impress the mind deeply with sentiments of exalted and devoted patriotism.

This most liberal distribution of books among the New York district schools, is in a very great measure attributable to the commendable exertions and enlightened judgment of the Hon. John C. Spencer, while Superintendent of Public Instruction, to whom I am happy to bear this humble tribute of respect and praise for his untiring labors and successful efforts in the cause of public education.

If other States will pursue the same liberal and enlightened policy—if the citizens will move forward, willingly, earnestly, perseveringly in their aid—we shall soon witness the successful establishment of libraries throughout the length and breadth of our Union, far transcending those of Europe in solid practical usefulness, and infinitely more consonant with the genius and spirit of our social, civil and religious institutions. They will be within the reach of all—instructing and enlightening all, and binding our whole people more closely together in the bonds of a common sympathy and interest. A solemn duty rests upon each and every State to establish, on a broad and permanent basis, our educational institutions, and to lend them a liberal and efficient encouragement. Government ought to stretch forth its strong arm in their support, and every friend of his country should generously and energetically co-operate in prosecuting this great enterprize.

Not only each State ought to emulate the others in this noble work, but every portion of each State, every county and town and city and village should rouse their energies, exert all their influence, and contribute to the extent of all their pecuniary ability, in advancing the cause of public education and morals.

[To be continued.]

RENÈ.

Translated from the French of Chateaubriand.

BY ISAAC W. TAYLOR, ESQ.

In arriving among the Natchez, René was obliged to take a wife, according to the custom of the Indians, but he did not pretend at all to live with her. A certain predisposition to melancholy led him continually to the depths of the forest, where he would pass entire days, seeming imbued with all the wildness of the savage natures by which he was surrounded. Except with Chactas, the father of his adoption, and father Souel, a missionary at Fort Rosalie, he appeared to have renounced all commerce with mankind. These two old men had acquired almost unbounded dominion over his heart; the first, by the most amiable indulgencies, and the latter, on the contrary, by the extremest severity. From the time of the beaver-hunt, when the blind Sachem had related to René the history of his adventures, the latter had exhibited no disposition to recount his own. Nevertheless, both Chactas and the missionary, desired ardently to know by what misfortune, a well-born and well-educated European had been driven to the strange resolution of burying himself in the wilds of Louisiana.

René always assigned as a reason for his silence the slender interest which attached to his history, confining itself, as he protested, simply to an account of his thoughts and emotions. "As to the event," added he, "which drove me to America, duty requires that I consign its memory to eternal oblivion."

Some years had thus rolled by, and the two old men were still unable to drag from René the story of his secret. In the mean time, a letter which he received from Europe, through the office of foreign missions, increased his sadness to such a degree, that he fled even the sight of his aged friends. They, on this account, were more than ever urgent with him, to open to them the secret of his heart; and they plied their task with such consummate address, such tact of gentleness and authority, that René was finally obliged to yield to their solicitations. He chose a day then, to recount to them, not the adventures of his life, for of these he had experienced none, but the hidden sentiments of his soul.

On the 21st of that month which the savages call "the flower-moon," René presented himself at the wigwam of Chactas. He

gave his arm to the old Sachem, and conducted him beneath the shade of a sassafras, on the borders of the Mississippi. Father Souel did not keep them waiting for his presence at the place of meeting. The first blush of morn had tinged the eastern sky: on the distant plain was visable the village of the Natchez, with its grove of mulberries and its tiny wigwams, resembling bee-hives, in the distance. The French colony and Fort Rosalie, appeared to the right, on the border of the river. The tents, the half-finished houses, the fortresses commenced, the newly cleared ground dotted over with negroes, and the groups of whites and Indians, afforded, in that little space, a striking contrast between the social customs of civilized and savage man.

Toward the East, terminating the perspective, the first rays of the advancing sun, could be seen between the unequal summits of the Apalaches, which were painted in colors of azure against the golden skies; to the West, the Mississippi, magnificent border of the picture, rolled its flood in majestic silence.

The young man and the missionary admired for some moments the enchanting prospect, and deplored the fate of the blind Sachem who could no longer behold and enjoy it; then father Souel and Chactas, seating themselves on the turf, at the foot of the tree, René took his place between them, and after a moment of silence, thus addressed his aged friends:

"I am not able, in the commencement of my story, to preserve myself from some slight emotion of shame. The peace of your hearts, venerable old men, and the calm presence of nature about me, call the blush to my cheek for the unquiet and the agitation of my soul. How can you pity me! How miserable must appear to you the inquietudes which leave me no repose! You who have quaffed deeply of all the actual sorrows of life, what will you think of a young man, without firmness or virtue, who finds his sole torment in himself, and has little to bewail in his fortunes, except the ills himself, hath made? Alas! condemn him not; he is already too greatly punished!"

"My birth occasioned the death of my mother. I was torn with iron implements from her womb! I had one brother on whom my father doated because in him he beheld the eldest born. As for me, delivered over, from early infancy into the hands of strangers, I was reared far away from the sanctuary of the paternal roof. My mood was impetuous, and my character capricious. By turns,

stormy and joyous, silent and sad, I would assemble about me my young companions, then quitting them suddenly, would hasten to seat myself in some sequestered spot, to contemplate the vagrant cloud or listen to the rain-drops as they beat upon forest leaves. Each autumn I returned to the parental castle, which was situated in a wood, near a lake, in a retired province. Timid and constrained in presence of my father, I never felt myself easy and happy except when near my sister Amelie. A pleasant conformity of humor and of tastes had attracted me closely to that sister, who was a little older than myself. We delighted to climb the hills together, to row upon the lake, and to course through the woods strewn with autumnal leaves. The recollection of these rambles to this moment thrills my soul with delight. Oh! illusions of infancy and of country! Will ye never loose your charm?"

"Sometimes we walked in silence, with ears attentive to the mournful sighs of autumn, or to the sad rustle of dead leaves beneath our feet; then, in our joyous mirth, we pursued the swallow to the moor or chased the rainbow upon the misty hill-tops. Sometimes also, we murmured those verses of poetry which the contemplation of nature had inspired. Though young, I wooed the muses, for there is nothing of higher poetic sensibility, than a heart in the fresh bloom of its passions, and touched only by the wing of sixteen departed years. The morning of life, like the morning of day, is full of purity and images of harmony. On sabbath and fete days, I have often heard, in the grand forest, through the trees, the sounds of the distant bell which called to the temple of the Most-High, the rural peasantry. Leaning against the trunk of an elm, I have listened in contemplative silence to the murmurs of devotion. Each trembling sound of the brass reminded my uncorrupted heart of the innocence of rural manners, the calm of solitude, the charm of religion and the pleasing melancholy of infantile recollections. Oh, what heart so dead as not to leap at the sound of natal bells! of those bells which peal joyously over the sense of earliest infancy, which announce one's advent into life, and mark the first beating of one's heart, which publish to all the world a father's joy; a mother's woe and her still more unbounded transport! We experienced all these emotions in those enchanting reveries united by the sound of the natal bell: reveries of religion, family, country, the cradle and the tomb—the past and the future! It is true that both Amelie and myself enjoyed ourselves unusual-

ly, in cherishing grave and tender thoughts, for each of us had a heart profoundly touched with melancholy, a trait bestowed upon us by nature or derived from our mother. In the meantime, my father was attacked by a disease, which speedily consigned him to the grave. He expired in my arms, and I first learned of death, from the lips of him who gave me life. That impression was profound and still endures. It was the first time that the immortality of the soul was presented clearly to my comprehension. I could not believe that the inanimate dust before me was the author in me, of thought, of reason; I felt that this should come from another source, and in a sacred sorrow bordering upon joy, I hoped at some future, to join the spirit of my father. Another phenomenon confirmed me in this elevated conception. The lineaments of my father's face had assumed in his cerements, an aspect approaching to sublimity. Why should not that astonishing mystery seal the truth of our immortality? Why should not death, which unlocks all mysteries, stamp the secrets of another world upon the brow of its victim? Why should there not be, in the tomb, a sublime vision of eternal truths?"

"Amelie, overwhelmed with sorrow, had retired to the recesses of a tower, whence she could hear the echoes of the funeral dirge and the tolling bell, resounding through the arches of the Gothic castle. I accompanied my father's body to its last resting-place; —the earth closed upon his remains;—eternity and oblivion rested upon him. The same evening, the unconscious wayfarer wandered indifferently by his tomb, and except for the tender sorrow of his bereaved daughter and son, the world would not have known that he ever had existed. It now became necessary that I should take my departure from the paternal roof, which had become the heritage of my brother. I retired, with Amelie, to the homes of some aged relatives."

"Checked at the very threshhold of life's deceptive paths, I meditated upon each, without daring to enter upon either. Amelie often discoursed to me upon the happiness of a religious life, and regarding me with touching sadness, would protest that I was the only tie that bound her to the world. My heart being affected by these pious conversations, I oftentimes directed my steps towards a monastery, near to my new place of abode. At one time, indeed, I was tempted to bury my life in this holy retreat. Happy those who end the voyage without quitting the post, and who have

not struggled through days of useless toil, as I have done! European society, in eternal commotion, has been obliged to subdue the wilderness for homes. In proportion as our passions are tumultuous and stormy, is the ratio of our enjoyment of quietude and silence. The monasteries in my native country, ever open to the unhappy and the defenceless, are often concealed in valleys, which convey to the heart a vague notion of misfortune hoping for sheltered security. Sometimes also, these asylums are seen in the most conspicuous situations, where the religious soul, as a mountain flower, can raise towards heaven, the perfumed incense of its devotions. I can still vividly recall the mingled majesty of forest and of flood which surrounded that venerable abby, where I thought to seclude my life from the waywardness of fortune; and I wander yet, in fancy, through its solitary and resounding cloisters. When the moon illuminated one side of the arch-crowned pillars, and cast their shadows upon the opposing wall, I have paused to contemplate the cross which marked the city of the Dead, and the creeping vines which twined among the tomb-stones. Oh! mortals, who have lived far from the stormy tumults of the world, and have passed from the silence of such a life to the silence of death, with what disgust am I filled, by the sight of your tombs, for all the pomps and vanities of earth!"

"Either a natural inconstancy of disposition, or a prejudice against monastic life, induced me to change my purpose, and resolve to travel. I bid adieu to my sister, who clasped me in her arms, in a sort of joyous transport, as if she was happy at the separation. I could not prevent some bitter thoughts upon the incongruities of human friendship."

"In the meantime, full of enthusiasm, I launched my barque upon the stormy ocean of life, knowing neither its havens of safety, or its hidden rocks of destruction. I first visited the abodes of nations that have vanished from the earth. I went abroad, and seating myself amid the ruins of Rome and of Greece, countries of great and glorious memory, where palaces are buried in dust, and the tombs of kings are overrun with brambles, exhibiting the resistless might of time, and the puny weakness of man. Oftentimes the tiny blade of grass would make its way through these marble mausoleums, now strewn in ruins, and which all the mighty dead, puissant as they were in life, could never rear again."

"Sometimes a solitary column would show its majestic form in

the desert, like a great thought which lifts itself occasionally from the arid surface of a soul which time and sorrow have strewn with desolation. I meditated over these monuments through all the accidents and all the hours of the day. Sometimes, the same sun which had seen laid the foundations of these glorious cities, went down, in majestic splendor before me, upon their ruins. Sometimes, the moon, lifting her orb through the pure heavens, and pouring her mild radiance over broken urns and scattered dust, revealed to me the pale tenements of the dead. Oftentimes, under the ray of that trembling star which wooes the soul to revery, I have fancied the genius of memory seated all pensive at my side."

"But I forbid myself to dig into the coffined secrets of the departed, where I disturbed but too often the repose of guilty dust. I wished to see if the races of living men would present to my contemplation more of virtue or less of sorrow, than departed nations. As I walked one day, in a great city, in passing behind a gorgeous palace, in a retired and deserted court, I perceived a statue which pointed with its marble finger to a spot made famous by a sacrifice. I was struck with the solemn stillness of the place. The wind alone, sighed mournfully around the tragic marble. A few laborers were seated, with an air of indifference, about the foot of the statue, and idly whistled as they plied their stone dressing craft. I asked of them what meant that monument. But few of them could, with difficulty, tell me its import, and the others were totally ignorant of the catastrophe which it commemorated. Nothing could have given me a more just estimate of the events of life and the littleness of man! Where now are those who filled the world with the noise of their amazing pomp? Time makes a step, and the entire earth is changed."

"I sought, above all things, in my travels, artists and those divine men of song, who celebrate the gods, with the music of the lyre, and sing the happiness of nations which honor law, religion, and the tomb. These children of song are of heavenly origin, and possess the only celestial talent known upon earth. Their life is at once simple and sublime; they celebrate the gods in golden numbers, and are at the same time the most artless of men, they are either superhuman or as little children; they expound the laws of the universe, and are unable to comprehend the most trivial affairs of ordinary life; they have sublime ideas of death, yet pass as unconsciously from life, as new-born babes."

"Upon the mountains of Caledonia, the last bard, whose voice of song had disturbed the silence of those desert places, recited to me the poetic numbers in which a hero of old, consoled his declining age. We were seated upon the moss-eaten rocks; a torrent rolled its waters at our feet, a roe-buck sped past at a distance, and was lost amid the ruins of a fallen tower, and the sea-breeze swept mournfully over the heath of Cona. Now, christianity, daughter also of the mountains, has planted the cross upon the monuments of the heroes of Morven, and has swept the harp of David, by the borders of the same stream which heard the wail of Ossian's minstrelsy. As peaceful, as the divinities of Selma were warlike, she tends innocent flocks on the battle-fields of Fingal, and into the darkness where murderous phantoms dwelt, she has sent her angels of light and her ministers of peace."

[To be continued.]

THE UNITED STATES ILLUSTRATED; IN VIEWS OF CITY AND COUNTRY. WITH DESCRIPTIVE AND HISTORICAL ARTICLES. EDITED BY CHARLES A. DANA. NEW YORK: HERMANN MEYER.

Six numbers of this interesting work, each containing four engravings, have been issued. The subjects illustrated. have been selected under the guidance of a discriminating judgement, and engraved in a style highly creditable to the artist. But the work commends itself to the patronage of the west upon other grounds: the interesting views which it contains of western scenery are calculated to invite those who travel for either pleasure or profit to visit the Mississippi and Missouri, instead of limiting their excursions, as heretofore, exclusively to the Eastern States.

Among the engravings published, we notice Itasca Lake, Falls of St. Anthony, Little Falls of St. Anthony, Brown's Falls, Fort Snelling, Mouth of the St. Croix River, Cliffs below St. Paul, and Nauvoo. For sale by C. Witter, No. 38 Walnut street, St. Louis. Price, single number, 50 cents; single volume $5.

VENICE; THE CITY OF THE SEA. By EDMUND FLAGG, late Consul of the United States at the port of Venice—Author of "The Far West," "The Howard Queen," &c. &c. This work, in 2 vols., has been received this month, and is for sale by Adams, 112 Fourth street. Price $2.25. Various reasons combine to render it one of peculiar interest. We intend to state them at length and publish a review of its merits soon; and hope that this production of western intellect may be universally read and liberally reviewed by the literati of the West—that they may study to promote a system of mental economy, to save an immense waste of talent, stimulate many a germ of genius, and develop the intellectual resources of the material-minded people of the Mississippi Valley.

Fragment of Faust.*

FROM THE GERMAN OF GOETHE.

Bells ring and Choir sing.

CHORUS OF ANGELS.

Christ is arisen!
Joy to all mortal men,
Whom, a corrupting sin,
Creeping and born within,
Follies imprison.

FAUST.

What deep, pure humming, what a clear bright tone,
Draws from my mouth this glass with earnest pow'r?
Announce ye now ye hollow bells alone
The Easter-festival's first hallowed hour?
Ye chorus sing ye now that song consoling sung
At first around the tomb from the bright Angels' tongue?
New covenant to men who low'r!

CHORUS OF WOMEN.

With spice and incense,
We embalmed him with care,
We, faithful, intense,
With sad hearts, laid him there;
Clothing and binding
We cleanly wrapped 'round,
Ah! though these finding
Christ is not found.

CHORUS OF ANGELS.

Christ rose to ensure
The loving salvation,
Who, through tribulation
And wholesome probation,
All trials endure.

FAUST.

What seek ye earnestly and kind,
Ye heavenly tones in dust here earthly?
Ring ye around where yielding men ye find.
The message I hear well, faith only is unbirthly;

* Faust, having devoted himself to the learning of the world and mastered it, feels disgust at its emptiness, and, in despair of any satisfaction on earth, determines to commit suicide. On the eve of the day which commemorates the Resurrection of Christ he puts the chalice to his lips.—*Junior Editor.*

In wonder is faith lovingly enshrin'd,
To yonder sphere, striving I dare not venture
Near by the Gospel's glorious throne;
Yet was I used in youth to love to hear this tone;
It calls me back to life with gentle censure.
The kiss of heavenly-love, with tender rush,
Thrilled me when young on solemn Sabbath mornings,
And then the bell-tones rang full of mysterious warnings,
And prayer was then a burning joyous gush;
A mild, unspeakably mild longing
Made me through woods and meadows far off go.
Under hot tears and feelings thronging,
I felt a world within me grow.
This song announces sports of youth, their lively pealing,
Spring festivals all free and gay;
Kind recollection holds me now with child-like feeling
From the last earnest step away.
Oh! sound forth now your sweet, your heavenly strain,
The tear is gushing, earth has me again!

CHORUS OF FOLLOWERS.

Now has the buried one,
Himself, near on high,
Living, sublime, alone,
Raised up in the sky.
He, in a loving life,
Is near creating joy.
Us, on the earth in strife,
Grief and pain still annoy.
Left he to languish,
His loved ones, has he not!
Ah! and with anguish,
Over his lot.

CHORUS OF ANGELS.

Christ is arisen!
From corruption's womb, he,
Bursting the prison,
Has set you free.
Ye who praise him in deed,
Having love for your creed,
And the poor ye who feed,
Telling all to take heed
Of his glorious meed,—
There is the Master true,
Always with you!

THE

WESTERN JOURNAL

and Civilian.

VOL. XI. November, 1853. No. II.

ARTICLE I.

The Influence of War and Public Improvements upon Prices.

The stringency experienced in the money market for some time past, and the prospect of a war between Russia and Turkey having changed the commercial aspects of this and other countries, we have concluded to place before the public the result of our reflections touching the consequences of these events.

If we recur to the industrial history of the United States, we shall find no period in which the people have been more generally employed or better rewarded for their labor, than during the last three years; nor has there been a time, we believe, when labor was more wisely directed. Why, then, should a difficulty arise in the money market, especially when we are receiving gold from California at the rate of about $5,000,000 per month? We answer, because the demand for money arising from the excessive importation and consumption of foreign commodities, the expansion in the price of all kinds of property, the accumulation of the precious metals in the public treasury, and the numerous railroad schemes recently projected, exceed the supply. Credit accumulating, became too abundant, and being subject to the laws which govern the price of other commodities, dealers became cautious and would purchase only the best qualities. The lower grades depreciated and ceased to be marketable, confidence, one of the principal agents of commerce, was weakened, and the necessity of supplying its place with money at a short notice, required unusual exertions, well calculated to create a panic.

It is fortunate for the country, however, that this state of things occurred at so early a period, for, even if money could

have been obtained for the purpose, the building of all the railroads which have been projected in the United States, at the same time, would have enhanced the price of labor and materials to an extent that would make the stock of little value when the works were completed.

The check which has been given to the sale of railroad securities will lead to more rational views touching the economy which should be observed in carrying out a great system of public improvement. It shows the necessity of estimating time as one of the elements of wealth, and teaches the policy of relying more upon local and less upon foreign resources. It furnishes an argument in favor of producing iron for the construction of railroads from the ores of the region in which the works are located; and if the people of the West should possess sufficient sagacity to perceive and appreciate these arguments, and sufficient courage and firmness of purpose to adopt the policy suggested, they will find abundant reason in the end to rejoice that they were disappointed in carrying out their plans according to their original designs. For if they build their railroads by the use of their own money and iron, it will be the means of opening their mines, of establishing manufactures, and of enlarging the home market for the products of agriculture. And, besides all this, when completed, the profits of the roads will be retained at home, and become a permanent source of wealth, instead of operating as a drain upon the circulation of the country, which must be the case if they are constructed by the use of foreign capital.

It would be disingenious, to attempt a concealment of the fact that many of the more recent railroad projects, which are based mainly upon calculations of obtaining money from the Eastern cities and from Europe, will be compelled to suspend operations for a season. But we do not admit that all unfinished works will be compelled to stop. Money, though checked in its circulation, was never more abundant in quantity; and the better class of securities will continue in sufficient demand to enable the stronger companies to prosecute their works to completion. When these shall have been completed, the suspended projects, if required to promote the public welfare, will revive, and take their turn in the market; and thus our great systems of railways will be carried out upon principles more compatible with the wants and resources of

the country than if all were to progress at the same time. Let us examine the grounds upon which these opinions are based.

We have no means of knowing the amount of railroad securities which have been offered in market, but we know that the supply greatly exceeds the demand. The large dealers in bonds and stocks do not purchase them to keep, but, like dealers in other commodities, buy to sell again; or, purchase on commission to fill orders. Their principal customers, who may be regarded in the light of consumers, consist of individuals not engaged in active business, and, consequently, invest their money in this kind of property with a view to a certain and permanent income for their support. With this class of customers undoubted solvency and certainty of payment are regarded as essential qualities, and it would be unreasonable to imagine that they would risk their means in the stocks or bonds of railroads not yet completed. They look out for securities whose character has been established by time, leaving the new bonds in the hands of the dealers until their soundness and paying qualities are firmly established. While undergoing this ripening process in the hands of the dealers, the money invested in them is drawn from the ordinary channels of commerce, and transferred to the interior to pay for labor and materials. Hence the want of money is felt at the great commercial centers, interest advances, and, as a natural consequence, the demand for stocks declines. All this takes place under the influence of certain laws of commerce, which, in the end, overrule every contrivance that can be devised to resist their operations.

But notwithstanding the redundancy of securities in market, and the impossibility of raising money upon them all at the present time, yet, the solid and efficient elements required to prosecute and accomplish great works of public improvement were never more abundant; nor has there been a period when it was so completely in the power of the people of this country to control and direct these elements to the development of our own great resources. We produce more gold than any other nation; and possess a larger quantity of iron ; and it is owing chiefly to our neglect of the latter and the extravagant consumption of foreign dry goods, that the precious metals are required for exportation. Were our foreign trade so adjusted as to leave us in possession of the gold produced in California, it would be in our power to proceed with all our railroad projects, which possess sufficient merit to

authorize their construction, without looking to Europe for the means of carrying them on. California supplying the money, and foreign immigration the labor, our great systems of public improvement would be accomplished without disturbing the ordinary and legitimate operations of commerce or of agriculture.

Should the war between Russia and Turkey be vigorously prosecuted, and continue for one or more years, it will tend to favor rather than prevent the prosecution of our public works. Large armies are great consumers of bread and provisions, and it is fair to conclude that the demand for these commodities will be considerably increased by reason of a war in the East; and, that the volume and money value of our exports will be enlarged, at least to an extent that will balance our imports without the exportation of the precious metals.

We are aware that the opinion prevails, that an advance in the price of bread and provisions is calculated to depress the price of cotton; and that, consequently, the aggregate money value of our exports will not be materially enlarged by an extraordinary demand and high prices for these commodities in Europe. The grounds for this opinion are plausible, but the conclusion is not sustained in all its aspects by history; for the facts show that high prices of bread have not, at least, immediately, depressed the price of cotton in the two instances when our exports of breadstuffs to Europe were the greatest. In the year 1815, the price of cotton began to rise, and continued to advance until 1818, when it was sold in the southern markets at over thirty cents per pound. The average price of flour exported at Philadelphia, in the year 1815, was $8.71 per barrel; in 1816 it was $9,78 per barrel; in 1817 it was $11.69 per barrel, and in 1818, $9.96 per barrel.* In 1817, the export value of flour amounted to $17,291,824, the largest amount in value that was ever exported from the United States in any one year until the famine of 1846–47. In 1819, the price of cotton declined to less than half the price of the preceding year, and flour declined also: the average price in Philadelphia during 1819 being only $7.11. In 1820 the price of flour fell to $4.72, and ranged from $4.65 to $6.82 until 1836, when it advanced to $7.99; and to $9.37 in 1837. But the rise in price in this instance was occasioned by a scarcity at home, and not by

* Vide Hunts's Merchants' Magazine, vol. XII, page 313.

the foreign demand—the quantity exported in 1837, being only 818,719 barrels. Nor did the high prices of bread in Europe, in 1846 and 1847, prevent the price of cotton from advancing. By reference to a tabular statement of the prices of cotton at New-Orleans, for each month from September 1846 to November 1847 inclusive—covering the period when breadstuffs were in greatest demand in Europe—it appears that they were higher during that period than at any time within several years previous; and, that they declined soon after the intense demand for bread ceased. From September, 1845, to August, 1846, inclusive, the price of middling to fair cotton ranged from 6½ to 8½ cents per pound, and from December, 1847, to August, 1848, inclusive, the same qualities ranged from 5 to 8 cents per pound.†

The following table exhibits the prices of middling and fair cotton at New Orleans, from September, 1846, to November, 1847, inclusive:

September,	1846,	7½@ 9	May,	1847,	10⅝@12¼
October,	"	8¾ 10	June	"	9⅞ 11¾
November,	"	9 10½	July,	"	9¼ 10¾
December,	"	9 10½	August	"	10½ 12
January,	1847,	10 11¼	September,		10⅝ 12
February,	"	11½ 13	October,	"	10 11
March,	"	9½ 11	November,		7½ 8⅛
April,	"	10⅝ 11⅜			

The export value of cotton for the year ending 30th June, 1847, was $53,415,845, and exceeded the amount of either of the two preceding years; the exports of breadstuffs during that year was valued at $53,262,437.

Thus, it will be seen that at the two periods during the present century when bread has been in greatest request abroad, the price of cotton has advanced and declined with the demand for that article. We are not to conclude from these facts, however, that the advance in the price of cotton at the periods mentioned was caused by the scarcity and high price of bread in Europe: nor that high prices for bread and provisions would not, in time, be the cause of depressing the price of cotton. But in the case of a war confined to Eastern Europe, we think it a rational conclusion that an active foreign demand for bread and provisions may continue at high

† Vide Western Journal, vol. I, page 630.

prices for a series of years without materially depressing the money value of cotton.

War is a great consumer: and in cases where the avenues of commerce are left open between the belligerents and neutral powers, it imparts great activity to trade by creating a demand for commodities not needed by the belligerents in time of peace One of its consequences, when waged between powerful nations, is high prices at home and abroad; and cotton being one of the commodities necessary to human comfort, it is fair to assume that it will, in common with other commodities, advance in price: though not as suddenly, or in as great a degree perhaps, as bread and provisions.

Recurring to the commercial aspects of the times, we perceive no cause to apprehend any serious inconvenience to the community in general, arising from the transactions of the past, provided a reasonable degree of circumspection and prudence should be observed in future. Individuals are embarrassed by an improvident use of credit, and by habits of extravagance. Railroad corporations are disappointed in negotiating securities, and some may sustain great losses from being compelled to suspend operations; but these misfortunes will scarcely be felt or perceived by the great body of the people as a community. If the reports of the banking institutions of the country are entitled to credit, the banks and the currency, with occasional exceptions, are in a sound condition; and although the importations of foreign merchandise has been large beyond all precedent, we have no cause to infer that the balances have not been discharged with the promptness which distinguish mercantile transactions in the most prosperous times. The crop of cereals and provisions is abundant, and prices highly remunerating. The crop of cotton will probably be an average one and prices at least fair; the production of gold in California is still large, and probably on the increase; and the government, by the purchase of its own obligations, is endeavoring to release from confinement in the public treasury a part of the $25,000,000 which is now prevented from performing its office in the commerce of the country. In view of these vast resources in connection with what we conceive to be the true condition of the country as one entire community, we are compelled to conclude that the stringency of the money market will be of short duration. Indeed, we think it

probable that the balance of specie between this country and Europe will be in our favor during the first half of the ensuing year. Should that be the case, it will be our best policy to appropriate as much of the accumulating gold as practicable to the construction of railroads, if for no other purpose, to prevent speculations in less meritorious objects. Speculations in unproductive property, and inflated prices occasioned by an extravagant use of credit, are the principal dangers to be apprehended during this and the ensuing year.

It may be regarded as impossible in the present state of human intelligence, to regulate commerce, and credit, (which is one of its principal elements,) so as to make the price of all commodities bear a just proportion to the cost of producing them, and, to their utility in the hands of the consumers. And, hence, alternate succession of high and low prices, though not a fundamental law of commerce, is a law proceding from the condition of individuals and society, as they are found to exist, and cannot, therefore, be entirely prevented. But notwithstanding fluctuations in prices must continue to occur, it is possible, by prudence and forecast, to modify them so as to avoid many of the evils incident to great revulsions. Whether the people of the United States possess wisdom and moral courage in a degree sufficient to direct the active development of our varied and vast resources without producing a general revulsion in prices and trade, is a problem which we shall not attempt to solve; but we entertain the opinion that no such revulsion can be reasonably expected for several years to come, unless occasioned by the occurrence of some extraordinary event not usually provided against in the calculations of men touching their ordinary affairs.

ARTICLE II.

Aubry's Journey from California to New Mexico.*

NOTES.—BY F. X. AUBRY.

TEJON PASS, *July 10th*, 1853.—As the country between this point and San Francisco is well known, I have kept no minutes of my journey thus far. We crossed the Sierra Nevada at the Tejon Pass, which is in about the 35th parallel of latitude, and about 50 miles south of Walker's pass. From this point we travel east until we reach the Rio Grande at Albuquerque, New Mexico. It is well to remark that, unfortunately, there is no one with us who knows anything of the country through which we must pass, and we could not obtain any information in regard to it. *My* party consists of eighteen men—twelve Americans and six Mexicans. Messrs. Tully, of Santa Fe, and Adair, of Independence, have joined us for a pleasure trip. We use pack animals entirely, having neither wagon nor carriage.

July 11th.—Left the Pass, and made twelve miles east over a level, gravelly and sandy soil, and found a spring of good water.

July 12th.—Traveled twenty miles eastward, the country similar to that of yesterday. We met with no timber, but found several springs of fresh water. There is timber in the mountains about the Tejon pass, but none on the eastern side of them.

July 14th.—Travelled to-day 35 miles east, and struck the Mohave river, where we found plenty of good water. This river sometimes disappears in its course, whilst at others it contains as much as two feet of water. There is a little cotton-wood timber upon its banks, and canebrakes in great abundance. The cane is not of the large species.

The Mohave takes its rise in the San Bernardino mountains, which lie to the south of us, and after pursuing a northern course to a point a little north of our present camp, turns suddenly east, and soon south of east to empty into the great Colorado. Found good grass for our animals.

July 14th.—Made 20 miles east along the Mohave, and found water, timber and grass abundant.

July 15th.—Continued along the river about 18 miles further, in a direction nearly east, then leaving the Mohave to our right, we traveled 15 miles north-east.

Met with an abundance of grass, a little timber, and a few miles of fertile land along the river. There is no water in the bed of

* The following account of a trip made by F. X. Aubry from California to New Mexico, through an unexplored region, is full of interest, especially at the present time; and is highly worthy of being preserved in American history on account of the heroism displayed by the author and his comrades.—*Editor.*

the stream; but it may be had by digging a few feet. Found wild game from time to time. Encamped without water, grass or wood.

July 16*th.*—Still pursuing a north-eastern course—we traveled to-day 35 miles over a level, gravelly soil. We have deviated from our due east course in order to avoid a region of sand hills that lie to our right, and directly between us and the Great Colorado. The weather is very hot, and no rain has fallen since we left the Pass. So far we have met with neither Indians nor game of any kind. We obtained a little water about half-way in our day's journey; but saw no timber or grass.

July 17*th.*—Made 33 miles north-east, over a level, gravelly country; about half way obtained a little very bad water. No grass or timber in sight during the day; but at night we obtained good water, grass and wild game. Prairie mountains lie on both sides of the trail.

July 18*th.*—Traveled 20 miles, still north-east, over a level country. Saw but little good land, and no timber. After traveling about 5 miles, we found good spring water, but encamped without any.

July 19*th.*—Course still north-east, distance 32 miles, country level, soil inferior, grass and water, but no timber.

July 20*th.*—Made 20 miles north east over a level, gravelly country, and obtained good spring water and grass. Saw no timber.

July 21*st* —Were detained in camp all day by the sickness of one of the men.

July 22*d.*—Traveled 20 miles east-south-east, most of the distance through a little canon, where we found good grass, water and game in abundance, and struck the great Colorado of the West. The river at this place is over 300 yards in width, and has from 10 to 15 feet water in the channel. Its banks are entirely destitute of timber and grass; in fact, no vegetation is met with except a small shrub, called *chamezo* by the Mexicans, and I believe *artemesia* by botanists. We were very fortunate in striking the river at this point, where there are neither canons nor mountains, although the country appears very rough and mountainous both to the north and south of us. To the north, the rocks are black and irregular, and seem to be volcanic: whilst the cliffs to the south are of red sandstone. The banks at the crossing are low, rocky and unchanging, and the current exceedingly rapid.

We followed the river up for 5 miles, and selected a crossing where it was some 200 yards wide and 20 or 25 feet deep. We succeeded in finding a little drift wood, of which we made a raft. Four men took charge of it, and it was carried some 3 miles with the current before it could be landed. The hights were covered with Indians, in readiness to shoot us down. I started down with four men to follow the raft and protect the men who were upon it, having ordered the camp to move down in haste. Having unloaded

the raft upon the eastern bank, the men recrossed the river, and we selected a camp opposite the place where the baggage was deposited, and during the night kept up a constant fire with our rifles across the river, and in this manner protected it from the Indians.

The animals were taken to the crossing I had first selected, to swim the river. I took them up with three men on the west bank, and four men received them on the opposite side. This detained us half a day, and altogether we were detained five days in crossing the river.

The driftwood of which we constructed our little raft, appeared to have been cut by beavers. These animals must be exceedingly abundant, as they destroyed during the first night the ropes with which our raft was bound together, and carried off the timber. The loss of the ropes was a great inconvenience to us. We set a guard afterwards at night over our second raft, to protect it from a similar fate.

The river showed signs of having been some fifteen feet higher than when we crossed it. It is here a grand and magnificent stream, swift like the Mississippi, and apparently as well adapted to navigation.

The place of our crossing is well suited to bridging, or ferriage by steam or otherwise.

We saw no water-fowl about the river, and only a few antelope and black-tailed deer. East of the river we encountered a great many rattlesnakes of an uncommonly large size. They seem to be a new species, as their tails are covered, for some six inches from the point, with alternate white and black rings of hair or bristles, about a quarter of an inch long.

According to my observations the Colorado of the west is set down upon the maps greatly too far to the east, perhaps as much as 150 miles.

The Indians were constantly in sight, and watching our movements. They could not be induced to approach us; but assured us, across the river, that they were Mohaves.

On one occasion, whilst at rest for a few minutes in a deep gulley, about a mile from the crossing on the west side of the river, a Mexican mule-boy discovered something glistening upon the ground, which on examination proved to be gold. We at once commenced washing sand in our tin cups, and in every one discovered particles of gold. This gold was discovered in a dark, coarse sand, and a black heavy sand was found in the cup after washing away the gravel. The sandy soil was so compact that we could not dig it up with our fingers. The Indians being still on the hights near us, and our party being separated by the river, the danger was so great that we could not remain longer at this spot. I intended to return again, but the Indians became so numerous that it was impossible to do so. This gulley is on the right bank of

the river, and the head of it is in a very rough and rugged mountain.

July 27th.—We washed sand on the east side of the river, and found gold in greater abundance than on any previous occasion. A Mexican boy, on washing a frying-panfull of coarse sand, found from forty to fifty particles of pure gold, some of which were as large as the head of a pin. We took the clay and sand from the top of the ground without digging. The appearance of the country also indicated gold. I made no further examination, as our animals had subsisted for five days upon the *chamezo*, without a blade of grass, and our provisions had been damaged in the Colorado, which must cause us to travel several days without anything to eat.

To-day we made 10 miles east. The country is without wood, water or grass.

July 28th.—Two of our men being sick, we were compelled to return to the river on their account.

Struck it some 15 miles below the crossing, and found that from near that point it makes a considerable bend towards the east. The country here does not indicate gold, nor could we find any on washing the sands.

July 29th.—The condition of our sick men obliged us to remain in camp all day. Our animals were in a starving condition, as there is not a particle of grass on or near the river.

July 30th.—Left the river and traveled 15 miles east, and 5 north-east. A sick Mexican was so much exhausted that we were compelled to make for a mountain north of us, which indicated water; but we found neither water, timber nor grass.

July 31st.—Traveled 8 miles, north-east, and struck a large stream, but much smaller than the Colorado, coming from the east-south-east, and running west-north-west. This stream may be what the Mexicans designate as the Rio Grande de los Apaches, and what the Americans have recently called the Little Red River.

One of our Mexicans followed this stream a few miles, and says it empties into the Colorado, 7 or 8 miles below camp, and that there is below us a valley of good soil, and grass in abundance. Where we struck this stream there is neither timber nor grass.

In the evening, we traveled 5 miles south, to avoid mountains, and as many east.

The country was level, but without grass or timber.

The mountains, or perhaps more properly hills that we have thus far met with, are nothing more than elevations of various forms and dimensions, dispersed in a detached and irregular manner over a vast and otherwise uninterrupted plateau. Hence, I have constantly termed the country level, and very properly, as it may be traversed in all directions among the solitary and detached elevations or mountains, without the necessity of crossing them.

August 1*st.*—Traveled 20 miles east, and found a spring of good water; the grass was abundant, and cedar trees were seen on the highlands. The country is level, and the soil inferior.

August 2*d.*—Made 10 miles east, crossing a mountain or ridge, where we found a fine pass, grass and timber (cedar and pinon,) abundant.

August 3*d.*—Traveled 20 miles south of east, over a country somewhat broken: timber and grass abundant. Indians were around us in numbers, all day, shooting arrows every moment. They wounded some of our mules, and my famous mare Dolly, who has so often rescued me from danger, by her speed and capacity of endurance.

August 4*th.*—We moved 10 miles south, to avoid mountains, and struck a valley which we left a few days since, and which extends to the Colorado. The mountains which we left are covered with timber. Grass and water were found in plenty.

The Indians commenced firing on us at sunrise, and continued until we reached camp. Arrows passed through the clothes of the men, and three passed through my own clothes, and I was slightly wounded by two others in different places. An arrow passed through the collar of Dick Williams. We killed several of the Indians and wounded more. Peter Prudon accidentally shot himself in the right knee.

August 5*th.*—Traveled 10 miles south-east in a valley. No water; grass and timber in abundance on all the mountains.

August 6*th.*—Continued 10 miles south-east in the same valley in which we traveled yesterday; found no water, but good grass and plenty of timber on and below the mountains. As our sick men are unable to travel, we are suffering for water, having been nearly 3 days without any; and indications are not now favorable. Indians still around us.

August 7*th.*—Traveled 10 miles south-east, half the distance in the same valley, and then went to a mountain, and found good water, grass and timber. All the mountains in this country are covered with cedar, pine and pinon. The grass is good in all the prairies, but none of them have any water. The soil is sandy and full of particles of mica. Indians are numerous, and continue to fire upon us.

August 8*th.*—Made 15 miles east-south-east, crossing a little chain of mountains, where we found a level pass, and timber, grass and water in abundance. Crossed a stream running from north-east to south-west, which I think goes to the Colorado. After crossing the mountains, we passed through a fine valley, with an abundance of good spring water, and timber near it. The Indians attacked the camp several times last night, but without success, and continued fighting us during the day, but with less boldness and resolution.

August 9th.—After proceeding 8 miles east, we found ourselves surrounded by canons, apparently from one to four thousand feet deep; at least we sometimes could not see the bottom. We were compelled to return to the same camp. The country is high and level, and well supplied with timber, grass and water.

August 10th.—Moved 10 miles south-east over a somewhat broken country. Crossed a stream of good water, (with timber along its course,) which is evidently a tributary of the Gila. The country indicates gold in abundance. We crossed a little chain of mountains, where we found a great quantity of silver ore in flint rocks.

August 11th.—Traveled south-east over a country a little broken, but well supplied with water, grass and timber. Indications of gold still exist.

August 12th.—Made 15 miles south-east, crossing the bed of a large stream now dry, with plenty of timber along it. Struck the valley which we left some five or six days ago, having crossed a few days ago the head water of a stream which passes through it. This valley will be of the utmost importance in the making of a wagon or rail road.

To-day, for the first time on this trip, we ate a dinner of mule meat. It was a new dish to most of our men, and made some of them sick. To me it was an old acquaintance, and I feel well. It only served to remind me of hard times on other journeys. The quality of the meat depends on the appetite of the man. Several of us are now on foot.

August 13th.—Marched 20 miles east, leaving to our right the great valley so often mentioned, and which extends to the Colorado. Passed through a little valley between two mountains, where we found timber, grass and water in abundance. The soil was excellent.

We here met Indians, who professed to be very friendly, with papers of recommendation from the commanding officer of Fort Yuma, on the Gila trail.

August 14th.—We left early, and after traveling 5 miles in an eastern direction, stopped to breakfast near an Indian camp of Garroteros. They professed friendship, but having no faith in their professions, I selected a camp on the top of a small hill, which would give us advantage in case of a fight. All went on well until our mules were saddled, and we were ready to start, when, at a given signal, some forty or fifty Indians, apparently unarmed, and accompanied by their squaws, children and babies, (tied to boards,) in their arms, very suddenly charged upon us, and attempted to destroy the whole party with clubs and rocks. The signal of attack was the taking of my hand in farewell by a chief, which he held with all his strength. So soon as these first Indians commenced the fight about two hundred more rushed from behind a hill and brush, and charged upon us with clubs, bows

and arrows. I thought, for a few minutes, that our party must necessarily be destroyed; but some of us having disengaged ourselves, we shot them down so fast with our Colt's revolvers, that we soon produced confusion among them, and put them to flight. We owe our lives to these firearms, the best ever were invented, and now brought, by successive improvements, to a state of perfection.

Mr. Hendry, an American, and Francisco Guzman, a New Mexican, greatly distinguished themselves.

Twelve of us, just two-thirds of our party, were severely wounded. I, among the rest, was wounded in six places. Abner Adair, I fear, is dangerously injured. It was a very great satisfaction to me to find that none of my men were killed, nor any of the animals lost. We bled very much from our numerous wounds; but the blood and bodies of the Indians covered the ground for many yards around us. We killed over twenty-five, and wounded more. The bows and arrows that we captured and destroyed, would have more than filled a large wagon.

Before the attack commenced, the squaws kept the clubs, which were from 18 to 24 inches long, concealed in deer skins about their children. When put to flight, they threw their babes down into a deep, brushy gulley, near at hand, by which many of them must have been killed. This is the first time I ever met with a war party of Indians accompanied by their wives and children. The presence of the latter was evidently to remove from our minds all suspicion of foul play on their part. I was never before in so perilous a condition with a party in all my life. On this occasion, which will be the last, I imprudently gave my right hand, in parting, to the Indian chief. The left must answer for leave taking hereafter.

We have thus far had so much ill-luck to encounter, that our arrival at our destination must be much delayed. First, our men fell sick, then our provisions were damaged in the Colorado; latterly, a man shot himself through the knee; our mules' feet, for want of shoes, are worn out; and, to crown all, to-day two-thirds of the party are badly wounded, and all have barely escaped with their lives. We are now subsisting entirely on mule meat, and do not get as much of that as we want. We are without salt and pepper, and, in their absence, it requires a stout stomach to digest our fare. But nobody complains, and the possibility of not doing what we have set out to do, has never entered the minds of my party.

We traveled 5 miles this afternoon, with the Indians at our heels, shooting arrows at us every moment.

August 15th.—Traveled 10 miles east among mountains, where we found water, grass and timber in abundance. Indians around us all day shooting arrows. I omitted, in the proper place, to say that I brought away from the mountains we passed through on the

10th, a little black sand, less than a cupful, and found in it, on washing, twelve or fifteen particles of pure gold.

August 16th.—Made 10 miles east and found no water; plenty of grass and timber seen on the mountains north of us. Indians still numerous and troublesome. To-day met with copper in very great quantities. A vein of the pure native metal, about an inch and a half in diameter, was seen sticking out from a rock, which must have worn away by time and left the copper exposed. I think there is gold in the ore, but am not certain.

Our condition at present is bad enough. I have eight wounds upon me, five of which cause me much suffering; and at the same time, my mule having given out, I have to walk the whole distance. Thirteen of us are now wounded, and one is sick, so that we have only four men in good health. We are unable to travel faster on account of Adair's condition.

Our canteens, &c., having been broken or destroyed in our fight with the Indians, we cannot carry water enough for more than half a day. This loss caused us to suffer more than can be imagined. Our animals are broken down by this traveling, which could not be avoided. We would come across an abundance of water every day if we could march some twenty-five or thirty miles, but our condition is such that it requires three days to make that small distance. In addition to all this, we are now on half rations of horse meat; and I have the misfortune to know that it is the flesh of my inestimable mare *Dolly*, who has so often, by her speed, saved me from death at the hands of the Indians. Being wounded some days ago by the Garroteros, she gave out, and we are now subsisting upon her flesh.

August 17th.—Moved to-day about 10 miles east, over a country rather rough. Suffering much for want of water. In crossing mountains we have to select the highest places instead of the regular passes, as when caught in canons or gullies we are not strong enough to fight the Indians. To-day, from the top of a little mountain, I saw the great valley, so often mentioned, extending to the Colorado, not over twenty miles south of us, and it now seems to turn more to the east. I intend to make for it. I entertain fears that Adair and Baskerville are in danger from their wounds; all the others are getting better.

August 18th.—Moved only 5 miles south of east. Found water, grass and some timber.

August 19th.—Went 5 miles to-day in the same direction as yesterday, and came to the great valley that extends to the Colorado. Encamped on a creek of good water and grass. Adair being sometimes unable to travel, we are waiting on him. Indians around us shooting arrows. We never return their fire without being certain of our shots.

August 20th.—Traveled 20 miles east, over a level, gravelly country; crossed a creek; found good grass; no timber in sight.

August 21*st.*—Moved 10 miles east over a level, gravelly country, and struck a large stream which is, no doubt, a branch of the Gila. The mountains to the north of us are very rough, and without timber.

There is no grass on the stream, which is 30 yards wide, with three feet of water in the channel. Its course is from north to south.

August 22*d.*—Made 10 miles south-east to a mountain. Country level, and without grass or timber.

August 23*d.*—Moved about the same distance and in the same direction, over a low, gravelly country. Struck a stream of good water, but without grass or timber.

August 24*th.*—Went about 8 miles north-east, and emcamped in the mountains, where we met with the Apaches Tontos. No timber seen to-day.

August 25*th.*—Crossed the mountains where the Apaches Tontos live, and found water, timber and grass in abundance. Traveled 15 miles northeast from the top of this mountain, from which we saw the Sierra Blanca Mountains, which are near the Puebla of Zuni.

Saw a prairie extending from the east end of the Garrotero Mountain to the upper end of the Sierra Blanca. I saw this prairie when we were at the east end of the Garrotero Mountain, but we were not in a condition to examine it. Fifty miles is nothing with good animals; but ours were broken down, and our wounded men were unable to travel over ten miles a day. But I saw the country sufficiently well to convince me that there will be no obstacle whatever to the making of a rail or wagon road. The mountains which we crossed to-day are impracticable for either. I should like to return to the east end of the Garrotero Mountain and pursue the route I indicate; but it is utterly impossible to do so, as we are now living on berries and herbs. We would rejoice to have mule meat, but we have so few animals, and so many wounded men, that it would be unsafe to kill any more. I have the good fortune of having true men with me, otherwise it would be uncertain that the party could get through; but I have confidence in my men, and I feel positively certain that we will make the trip.

It will take us some ten or twelve days to reach Zuni, where we expect to procure provisions. I shall travel near the mountains, as heretofore, on account of the certainty and facility of getting water, but shall remain in sight of the prairie extending from the Garrotero to the Sierra Blanca mountain.

August 26*th.*—Moved 10 miles east-north-east, most of the way along a creek, where we found grass in plenty, and some timber. The Apaches Tontos are numerous and troublesome.

August 27*th.*—Made 15 miles east, crossing two streams which are branches of the Gila. We met Indians to-day, who, I think, are not Apaches Tontos, as they do not speak any Spanish, and

refuse to answer our questions. We obtained from them over fifteen hundred dollars worth of gold for a few old articles of clothing. The Indians use gold bullets for their guns. They are of different sizes and each Indian has a pouch of them. We saw an Indian load his gun with one large and three small bullets to shoot a rabbit. They proposed exchanging them for lead, but I preferred trading other articles. Whether the Indians made these balls themselves, or whether they were obtained by the murder of miners in California or Sonora, I am unable to say.

August 28th.—Traveled 10 miles east, over a good country, met with more Indians and traded for some horse-meat, by giving articles of clothing in exchange. We traded also for a few hundred dollars worth of gold. To-day a mule broke down, and an Indian gave me for it a lump of gold weighing a pound and a half less one ounce.

The Indians are so numerous they would destroy the party if we allowed them the least chance. But we are very vigilant, and select camps on elevated places, consequently we are unable to make any examinations for gold in the sands of the country. The Indians call themselves Belenios.

August 29th.—Traveled some twenty miles in an eastern direction; the country quite level, and the land good, with plenty of grass and water.

August 30th.—Moved about twelve miles north of east, over a country similar to that of yesterday. Found water, grass and pine timber.

September 1st.—Traveled fifteen miles over a country a little broken, and well supplied with water, grass and timber.

September 2d.—Traveled the same distance north-east to the Sierra Blanca. Followed Indian trails all day, and found grass, water and pine timber in great abundance; and most of the soil is of a superior quality.

September 3d.—Pursuing the same course, we traveled some fifteen miles among the same mountains. To-day we passed through valleys of good soil, and we found the pine timber in greater abundance than yesterday. The trees are generally from two and a half to five feet in diameter, and over two hundred feet high. We have seen timber enough to-day to make a railroad from the Eastern States to the Pacific. The passes through this mountain are level, and can be traveled by wagons without any difficulty whatever.

September 4th.—Made 25 miles north-east, crossing the Colorado Chiquito after traveling two miles. The land is level and good, and water and wood are plenty.

September 5th.—Made 20 miles north-east, and got out of the mountains after traveling five miles; struck the prairie, where we found good soil, grass and water.

September 6th.—Continuing north-east over a good and level country for 25 miles, we reached the Indian town or pueblo of Zuni, where we met with a hospitable and civilized population, from whom we obtained an abundance of good provisions, over which we greatly rejoiced.

We have subsisted for a month on mule and horse flesh, and for the most part of that time on half or quarter rations. But as I have reached this place with all my men, I feel satisfied. I shall take no notes of the country from this town to Albuquerque on the Rio Grande, as a level and much traveled wagon road exists between the two places, and is familiar to the people of New Mexico. It has been described by others, and is well known to present no difficulties to the construction of a railroad.

September 10th.—At Albuquerque, New Mexico. Before laying aside my pencil, for the use of which I have no fancy, I shall set down a few ideas that are now prominent in my recollection.

I set out, in the first place, upon this journey, simply to gratify my own curiosity, as to the practicability of one of the much talked of routes for the contemplated Atlantic and Pacific Railroad. Having previously traveled the southern or Gila route, I felt anxious to compare it with the Albuquerque or middle route. Although I conceive the former to be every way practicable, I now give it as my opinion that the latter is equally so, whilst it has the additional advantage of being more central and serviceable to the Union. I believe the route I traveled is far enough south to be certainly free from the danger of obstruction by snows in winter.

The route, in all its length, may be said to pass over a high plateau, or generally level country, for the most part thickly studded with prairie mountains, or detached elevations, seldom so linked together as to deserve to be called a chain of mountains. Numerous mountains were at all times in sight; but being for the most part isolated peaks, a detour of a few miles would always supersede the necessity of crossing them. To the south of our route from the Great Colorado to Zuni, the country was more level than on the north, and for the greater part of the distance a valley extends nearly due east and west to the Colorado. The existence of so many mountains along the way must be considered, in reference to a railroad, as a very fortunate circumstance instead of a disadvantage, as it is the mountains alone which furnish the timber and never failing water. The plains are only deserts and barren spots, if they are to be called so after the fashion of the day, which exist in all that vast region of country which lies between the Gila on the south and the British Possessions on the north, and the Rio Grande on the east, and the Sierra Nevada of California on the west. The plateau, or table lands, must of course furnish the track upon which the road is to be laid; but the mountains adjacent must furnish the timber to make it, and the water

for the use of men and animals employed in its construction, and for the use of the depots afterwards. .

It is well for the country over which I passed that these mountains exist, as without them it would be in reality one vast and repulsive desert. It would be a disadvantage for a railroad to have to cross them, as, although not difficult to cross, it would much increase the expense. But I saw nothing that rendered it at all probable that they would have to be crossed. On the contrary, I am satisfied that a railroad may be run almost mathematically direct from Zuni to the Colorado, and from thence to the Tejon Pass in California. The section from the Pass to San Francisco should leave the Tular Lake to the west, and should pass through the Coast Range of mountains, say in the neighborhood of San Juan, and thence to San Francisco, and by a branch to Stockton.

The west side of Tular Lake is unfit for a road on account of its miry nature. The section of the route from Zuni to Albuquerque is plain sailing. That from Albuquerque to Independence to St. Louis, or Memphis, is equally plain, by two or three well known passes through the Sandia Mountains, which lie east of the Rio Grande.

Certain slight deviations from the track which I pursued would improve the route. For instance, it would be better to leave my trail to the north, at a point say 180 miles east of the Sierra Nevada, and intersect it again some fifteen miles west of the Colorado. On the east side of the Colorado the road should pursue a directly eastern course for 75 miles, and thence take an east-south-east course for nearly 200 miles, at the foot and on the south side of the mountain inhabited by the Garrotero Indians. Thence north-east for 15 miles, in a prairie between those mountains and a range of mountains which seem to extend to the Gila. From this point, the road should run easterly to the Colorado Chiquito river, and thence north-east to Zuni. The distance from the east end of the Garrotero mountain to Zuni is about 200 miles. This route, as I indicate it, will pass at all times in sight of my trail, and through as practicable a country as any railroad route of the same distance in the United States.

The proposed route by the Sangre de Cristo, north of Taos, I take, if practicable at all, to be very objectionable on account of the vast elevations the road must ascend to and the large quantities of snow which fall and remain there so long during the winter months. This route has also the additional disadvantage of crossing two rivers, the Grand and the Green, either of which would be as costly to bridge as the Colorado.

A route has been somewhat spoken of just north of the Gila, with the view of having a route wholly on American ground. This, I am satisfied, is altogether out of the question, on account of mountains alone, if no other objection existed. The Gila route proper, passing in part through Sonora, is objectionable on sev-

eral accounts, besides its situation. In the first place, there is no timber upon the plains, nor upon the volcanic mountains that are along the way. A considerable part of the route, too, lies over a country destitute of vegetation, which, when dry, is a white powder, resembling flour, in which the feet of men and animals sink several inches. This same clay, when wet, is the most treacherous of quagmires. Some parts of the road are also very sandy. Don Ambrosio Armijo, who took sheep to California last year, lost as many as eleven hundred among the sand-hills west of Colorado, by sinking in the sand, and being run over by those behind. Another serious objection to the Gila route is the great desert which lies west of the Colorado, and has an extent of 100 miles without wood or water.

I have no interest in recommending one of these routes more than another. I took sheep and wagons to California last year by the Gila route, and I am about to return that way to California again with sheep. Upon the route which I have just traveled, I encountered many hardships and dangers, and met with serious pecuniary loss; yet I say it is the best for a railroad, and would be excellent for ordinary traveling but for the Indians. A large portion of the trail over which I passed—say some 250 miles west from the Rio Grande—is, for the most part, admirably adapted to farming and stock raising.

ARTICLE III.

[From the Mining Magazine.]

Gold and Silver Produced by the Mines of America from 1492 to 1848.

With the exception of statements made by some of the early adventurers of the amounts of gold obtained of the aborigines in particular instances, there is little else than conjecture as to the amount of the precious metals gathered by the early discoverers of America. Humboldt, whose opinion is perhaps entitled to more confidence than that of any other writer, has estimated the average annual amount of gold which America furnished to Europe, from 1492 to 1500, at 52,000*l.* sterling.

According to the accounts of Herrara and others respecting the operations of the early adventurers, the estimate of Humboldt would seem correct for the whole period from 1492 to 1519, when Cortez first landed in Mexico. Up to this period gold only had been found. Twenty years after the conquest of Mexico, that of Peru was made by Pizarro. The process by which the Peruvians had

procured their gold and silver before the arrival of the Europeans was simple, rude, and with little regard to extracting the whole of the precious metals from the ores. The use of mercury was not adopted till forty years after the conquest. The smelting was performed in small portable furnaces, or cylindrical tubes of clay, very broad, and pierced with a great number of wholes. In these the Indians placed layers of silver ore, galena and charcoal, and the current of air which entered the holes, quickened the fire and gave it a great degree of intensity. These furnaces were moved from one elevation to another, according to the degree of high or low wind. When it was found that the wind blew too strong and consumed too much of the fuel, they were removed to a lower situation. By these means the natives obtained argentiferous masses, which were smelted again in their own cottages. This was performed by a number of persons, ten or twelve at a time, blowing a fire through copper tubes, from one to two yards in length, pierced with a small hole at the extremity toward the fire, which thus acted in the same manner as the modern blow-pipe.

The mines of Potosi were discovered in 1545. Several mines had been previously worked, but there is no account of the gold and silver which they yielded. The estimate of Humboldt up to this time, which is adopted by all the leading writers, is as follows:

The annual addition in twenty-nine years, between the discovery in 1492 and the conquest of Mexico in 1521, at £52,000, would amount to	£1,308,000
The amount for twenty-five years, from the conquest of Mexico to the discovery of Potosi, at the annual rate of £630,000.....	15,750,000
Total addition in 63 years.....	£17,058,000

Writers have estimated that the quantity of gold and silver in the old world had been reduced to thirty-three or four millions, and that the supply of the European mines at the discovery of America was equal to that which was annually consumed by wear.

The discovery of the mines of Potosi was accidental. It was made by an Indian hunter, Diego Hualca, who, in pulling up a shrub, observed filaments of pure silver about the roots. The mass on examination was found to be enormous, and a large part of the population was attracted to the spot. A city soon sprung up. The mountain was perforated on all sides, and the produce in a few of the first years exceeded whatever had been recorded of the richest mines of the world.

During the first ten years after the discovery no account was kept of the quantity of treasure obtained, but during the succeeding twenty-three years, from 1556 to 1578, a tax of a maravedi upon each marc of silver was laid. The account of this tax gives as its amount nine millions eight hundred and two thousand two

hundred and fifty-seven peros, and the treasure therefore must have amounted to $49,011,285, or $2,130,925 annually. Humboldt and other writers have concluded that the yield of the mines did not exceed during the first ten years that of subsequent and equal periods. This opinion is based upon the improved processes of amalgamation introduced after the end of the ten years. During the next twenty-one years, from 1579 to 1600, the amount of treasuse according to the tax was $29,185,990 ; or $1,389,859 annually.

During this period Chili yielded some gold, but the principal supply of treasure came from Mexico. Humboldt is chiefly followed by all writers in the estimate of the annual supply during all this period, which is reckoned at $10,000,000. This in the period of fifty-four years, terminating at 1600, would amount to $540,-000,000.

It would be an interesting subject to investigate the influence which this accumulation of treasure had upon the social condition of the inhabitants of Europe. The advance in prices, the rise in wages, the increase of luxury, and the more general diffusion of comforts, are distinctly marked in the pages of history.

The sum which formed the stock of money current in Europe at the latter end of the fifteenth century, is thus estimated by one of the most laborious English writers who has investigated the subject.

1st. The stock existing at the time of the discovery of America.....	£34,000,000
2d. That produced in the hundred and twelve subsequent years, after making allowance for the loss by wear and tear	138,000,000
	172,000,000
Deducting what had been conveyed to Asia, and what is supposed to have been applied to the purpose of commodities of all kinds	42,000,000
	£130,000,000

This is equivalent to quadrupling the quantity of coin in Europe in the first century after the discovery of America. A conclusion which will admit of great difference of opinion.

After the year 1600 the mines in the district of Potosi in Peru declined greatly. In the first fifteen years of the seventeenth century they yielded $1,670,344 ; and in the last fifteen years, from 1685 to 1699, both years inclusive, the average amounts to no more than $559,943. This decline is not ascribed to the exhaustion of the mines, but to the cruel conduct of the Spaniards.

During the same period, the district now known as Bolivia, was productive of metals. Mines were opened and worked in Caran-

gas, Oruro, Andacava, and Chaquiapu or La Paz. At the same time, the silver mines in the northern part of Peru at Gauricocha or Pasco, were opened, and yielded a large amount of that metal. Thus although the district of Potosi declined, the other parts of Peru advanced so considerably as more than to compensate for the deficiency. This increase of silver was greatly promoted by the extension of the mines of mercury at Huancavelica. The quantity at first obtained from them was small, compared with that which they reached between the years 1598 and 1684, after which they appear again to have declined. The principal one of these mines became choked up about 1790, which was a great misfortune to the mining interest of South America. The superintendent of that day removed the pillars which had been left by the excavators of the galleries to support the roof. By the superincumbent pressure the roof fell in, and the passages became blocked up.—"The master miners," says Humboldt, "accused the intendant of having removed the pillars to ingratiate himself with the court of Madrid, by procuring in a very few years a great quantity of mercury. The intendant on his part affirmed that he had acted altogether with the consent of the master miners, who thought the pillars might be replaced by heaps of rubbish."

Meantime the increase of gold was taking place both on the north and south of Peru. In Chili the Spaniards and Indians were sedulously employed in washing for gold in those streams which descend from the Cordilleras. The climate and soil, there, are exceedingly favorable to gold washers. "It is usually observed," remarks a traveler who visited that country, "that in those countries where great mineral riches exist, the soil is of a barren and unproductive nature; but Chili affords a striking and almost solitary exception to this rule. Streams abounding in gold wander through the most luxuriant corn-fields, and the farmer and the miner hold converse together on their banks."

At this period some silver, but more gold, was found in New-Grenada, but the principal quantity of gold was obtained in the ravines of the mountainous regions of Antioquia in the valley of Cauca, between the central and western Cordilleras, and especially in the southern extremity of the province of Popyan.

About the year 1630 the mines of Guanaxuato in Mexico were greatly extended, and those of Tasco, Zultepec, Zacatecas, and Pachuca began to improve, and so continued to the end of the century. The ancient documents on the subject of the product of treasure are very obscure, but Humboldt has concluded that the precious metal produced in Mexico so increased between 1600 and 1700, that in the last ten years of the century the mines delivered to the mints, in gold and silver, to the amount of more than five million piastres. It is estimated by Jacobs, that South America, exclusive of Brazil, yielded during the century terminating in 1700,

in conjunction with the produce of Mexico, $10,500,000. Brazil is estimated at another million, and the amount not reported at the Mexican mints, but conveyed away by contraband means, is estimated at $2,000,000. Thus we have an annual yield from all the American mines, of $13,600,000 for the hundred years terminating in 1700.

The following estimate of the coin in circulation at the end of 1699, throughout the world, may be new to many of our readers, and may also serve as a landmark in the progress of our subject.

Stock of coin left at the end of 1599.....		£130,000,000
Deduct for abrasion and loss in the course of the century past.....		43,000,000
		87,000,000
Produce of the mines of the world in one hundred years	£337,500,000	
Transferred to India and China...	33,250,000	
	£304,250,000	
Deduct one-fifth converted to other objects than that of coin.	60,250,000	
	£244,000,000	
Deduct for wear and tear.....	34,000,000	
		210,000,000
		£297,000,000

The produce of mineral treasure from this period was slow, but uniform, throughout America, until nearly the close of the century. The great mine of Valenciana, says one of the writers upon this period, which during forty years yielded to its proprietors a clear profit of from eighty-five to one hundred and twenty-five thousand pounds sterling yearly, was neglected until near the year 1760, and after ten years' labor and expenditure, when the richest part of the vein had been reached, continued for upwards of forty years to yield more than half a million sterling in gold and silver. The rich district of Guanaxuato, in Mexico, which in the years before 1766, yielded only three hundred and eighty thousand ounces of silver annually, produced in the latter years of its prosperity more than one million five hundred thousand. The mineral repository of Catorce was only discovered in the year 1773, but it yielded a very large quantity of gold and silver till 1798, when the value of the minerals declined. The vein of Biscaina did not become enormously productive until 1762. In twelve years from that period, the owner of it gained a profit of more than a million sterling, with part of which he presented to the king of Spain two

ships of war, one of them of one hundred and twenty guns, and also lent him upwards of two hundred thousand pounds, which was never after repaid. The mines of Zacatecas, which in 1750 scarcely furnished silver to the amount of more than one hundred thousand pounds, increased in a few years to ten times that amount.

The following is the statement of the product of the mines of Mexico, in gold and in silver, delivered to be coined at the several mints in periods of ten years, reduced to sterling at the rate of four shillings and two pence the piastre, according to Humboldt and Ward.

In the ten years from	1700 to 1709.....	£10,777,298
" "	1710 to 1719.....	13,697,297
" "	1720 to 1729.....	17,131,921
" "	1730 to 1739.....	18,860,355
" "	1740 to 1749.....	23,302,633
" "	1750 to 1759.....	26,197,936
" "	1760 to 1769.....	23,505,012
" "	1770 to 1779.....	34,912,858
" "	1780 to 1789.....	40,318,948
" "	1790 to 1799.....	48,191,711
" "	1800 to 1809.....	47,142,814
		£304,039,783
It is estimated by Humboldt that the gold and silver of Mexico which did not pay the duty to the king was equal to one-fifth of that which did. Taking it at that amount there may be added.....		60,807,956
		£364,847,739
This is an annuul average product of		£3,316,706

The greatest quantity of silver from Peru has been extracted from the mines of Pasco. They are in the midst of mountains covered with perpetual snow, and are themselves at a height of thirteen thousand feet above the level of the sea, and, consequently, in a severe climate and a barren soil. They are said to contain masses of silver equal to the quantity found in the district of Guanaxuato in Mexico, and at no great depth below the surface. But the unhealtiness of the climate, the expense of conveying necessaries to such an elevation, and the water by which the pits are often submerged have been impediments to extensive operations. Nevertheless these mines yielded subsequently to 1700, even throughout the century, annually eight hundred thousand ounces of silver. In the province of Truxillo the Hualyayac, Gumachuco and Conchuco mines have been worked since 1772, and yielded annually eight hundred thousand ounces of silver. The ores of the district were said by Humboldt to be richer than those of Potosi.

The gold and silver obtained from the mines in Peru was ordered to be brought to Lima to be coined. No regular returns of the amount are attainable of an earlier date than 1754. The gold and silver which paid the duty on coinage from this date to 1809, was 240,408,058 piastres. Writers upon this subject, especially Jacobs, have reckoned the amount the same for the preceding fifty-nine years, and thus concluded the amount of gold and silver yielded by the mines of Peru for the one hundred and ten years previous to 1810, to have been $480,816,116.

The western part of Columbia has yielded gold from the earliest period, but no silver of account. The gold is obtained in alluvial districts. Veins have been found in the mountains of Guamoco and Antioquia, but the working of them has been neglected. The gold obtained from the washing was coined, and paid duty at Santa Fe de Bogota. In 1801 it averaged 2,500,000 piastres, from which amount it had not varied materially for a long period.

The gold and silver obtained in Chili was coined at the capital, Santiago, where the tax was collected. It amounted to about $850,000 annually, and for the period from 1700 to 1810, it is estimated that the gross yield of the mines and washings was $93,500,000.

Buenos Ayres, which at one time included the mountain of Potosi, had many rich mines about this period, especially La Paz, Carangas and Oruro. The annual product of which is stated by Humboldt to have been $4,2000,000, or in one hundred and ten years $462,000,000.

Bringing together under one view, the products of the gold and silver mines of Spanish America, and regarding the amount of contraband, or which did not pay a tax, we have the following results:—

Peru	£100,169,524
Columbia	57,341,666
Chili	19,532,166
Buenos Ayres	96,250,000
Product paying duty	273,293,356
Product on contraband	68,323,339
	341,616,995
Product of Mexico as stated above	364,847,739
	£706,464,434

But Brazil belonged to the Portuguese, and its product of gold must be added to the amount of gold and silver obtained in Spanish America. In the appendix to the report of the Bullion Com-

mittee of the English House of Commons in June, 1810, there is an account of the product, or duty of one-fifth, from the 1st of August, 1751, to December, 1794, for the two greatest mining provinces of Brazil, those of Minas Geraes, and of Minas Novas; and also of the district of Goiazes. By this statement, it appears that there was a decrease in the amount of the quintos on gold as follows:

	Arobas.	Mures.	Ounces.
Annual average from 1752 to 1762.....	104	7	5
" " 1763 to 1773.....	90	3	1
" " 1774 to 1784.....	69	20	4
" " 1785 to 1794.....	45	41	5

Thus the tax of one-fifth the weight amounted to 3,369 arobas of gold; the value of each aroba in sterling is £1,821 17*s.* 4*d.* Consequently, the whole amount produced from the mines in fifty-one yeas was £30,719,335. The yield of the other mines for the same period is estimated at £9,281,665.

The only method without statistics, which do not exist, by which to arrive at the results of the preceding period of fifty-nine years, is through an investigation of the commerce of the period, with all those incidental circumstances which have a degree of influence upon it. After such an investigation, Jacobs, among other writers, has reckoned the amount produced as equal to that of the subsequent period, and the total from 1700 to 1810 at £80,000,000: thus

Spanish America.....	£706,464,434
Portuguese America.....	80,000,000
	786,464,434
Or an annual product of.....	£7,146,767

Since the commencement of the present century, the product of the mines originally of Spanish and Portuguese America has rapidly declined. This has been in consequence of political disorders and wars, and not from any failure in the mines. Thus in Mexico, the money coined at the mint in 1809 was $26,172,982 in gold and silver; but in 1812 it had declined to $4,409,266. In Guanaxuato, according to Mr. Ward, the amount of the precious metals diminished from 8,852,472 marcs of silver, and 27,810 marcs of gold, the product of fifteen years preceding the revolution, to 2,877,213 marcs of silver, and 8,109 marcs of gold. The mines of Sombrerete declined from five hundred thousand to three hundred thousand annually. The product of the mines of Catorce, which was second only to that of Guanaxuato in the amount of silver raised, being nearly three millions of dollars annually, was so reduced as to yield, on the average for the fifteen years of the revolution, $599,400. The Bisciana vein, which yielded $857,042

annually, declined during the period from 1809 to 1823, to $14,285 annually. In each district the principal mines, with a single exception, were abandoned; the machinery was allowed to go to ruin, and the silver raised was merely the gleanings of more prosperous times; the workings were confined almost entirely to the upper levels. Reports have been made of the quantity of money coined at the four mints between 1810 and 1829, including both gold and silver. This amount is $220,403,183.

The produce of gold and silver in Central America was always included in the returns from Mexico previous to 1820. At that time a mint was established, which, up to 1829, had coined about $2,893,710.

The entire amount of gold and silver supplied by the late Spanish dominions in America, for the twenty years terminating in 1829, is thus estimated:

Mexico	$220,043,200
Guatimala	2,893,710
Columbia	33,564,267
Peru	64,688,429
Buenos Ayres	30,000,000
Chili	16,618,880
Brazil	19,892,400
	$387,700,886
Or at 4*s.* 2*d.* the dollar	£80,736,768

As early as 1824 gold was found in North Carolina; to wit, 1824, $16,000; 1825, $17,000; 1826, $20,000; 1827, $21,000; 1828, $46,000; 1829, $128,000. Also in Virginia, South Carolina and Georgia, small quantities were found at the same time.

A recapitulation of the amounts thus far stated, presents the following results of the produce of precious metals from the mines of America.

From 1492 to 1600	£130,458,000
1600 to 1700	337,500,000
1700 to 1810	786,464,434
1810 to 1829	80,736,768
	£1,235,159,202

We have thus far followed chiefly the estimate of Humboldt and Ward and Jacobs. Some discrepancy must necessarily exist in the absence of positive reports, between the results of every investigation.

For the following tables we are indebted to M. Michel Chevalier's *Remarks on the Production of the Precious Metals.*

Total Production of the Silver and Gold Mines of America prior to the Discovery of the Gold Mines in California.

Countries.	Silver.		Gold.		
	Weight in Kilogrammes.	Value in Millions of Francs.	Weight in Kilogrammes.	Value in Millions of Francs.	Total for each country in millions of Francs.
United States	.....	.....	22,125	76	76
Mexico	61,985,522	13,774	389,269	1,341	15,115
New Grenada	259,774	58	566,748	1,952	2,010
Peru / Bolivia	58,765,244	13,059	340,393	1,172	14,231
Brazil	.....	... ..	1,342,300	4,623	4,628
Chili	1,040,184	251	250,142	862	1,098
Total.....	122,050,724	27,122	2,940,977	10,026	37,148

Quantities of Gold and Silver supplied to the European Markets by the undermentioned Countries during three centuries ending in 1848.

Countries.	Silver.		Gold.	
	Weight in Kilogrammes.	Value in Millions of Francs.	Weight in Kilograimmes.	Value in Millons of Francs.
Europe, exclusive of Russia	9,000,000	2,000	445,150	1,500
Russia.....	1,485,000	300	319,330	1,100
Africa and the Islands of the Malay Archipelago, &c.	.....	.....	725,750	2,500
Total.....	10,485,000	2,300	1,490,230	5,100

In the third volume of the London Mining Journal, p. 331, we have the following statement as to the produce of the precious metals: "In 40 years, from 1790 to 1830, Mexico produced 6,436,-453 l. of gold, and 139,818,032 l. of silver. Chili, 2,768,488 l. of gold, and 1,822,924 l. of silver. Buenos Ayres, 4,024,895 l. of gold, and 27,182,673 l. of silver.

The following table shows the annual product (approximate calculation) in value of fine gold and silver for 1846 and 1850, the former being two years before, and the latter two years after the discovery of the gold mines of California.

	1846.			1852.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
	£.	£.	£.	£.	£.	£.
California.....	.....	.....	.....	12,000,000	62,088	12,062,078
United States..	237,336	1,864	239,230	115,430	11,444	126,854
Mexico.....	249,753	3,457,020	3,706,773	382,901	5,383,333	5,766,234
New Grenada..	252,407	42,929	295,336	252,407	42,929	295,336
Peru.....	96,241	1,000,583	1,096,824	96,241	1,000,583	1,096,824
Bolivia.....	60,337	460,191	520,548	60,357	460,191	520,548
Chili.....	145,585	296,029	442,614	145,585	297,029	442,614
Brazil.....	259,871	2,003	261,874	289,068	2,227	291,295
Total of North & S. America	1,201,560	5,261,619	6,563,179	13,341,989	7,259,824	20,601,813

Article IV.

Address of Uriel Wright, Esq., before the First Agricultural Fair in Missouri.*

Mr. President:

I am here to-day by your appointment, to speak for the cause of Agriculture. The scene around me proclaims your interest in that cause, and I share it with you, but in degree and quality how different!

It was not my good fortune to start in life in partnership with this fertilizing atmosphere and this teeming earth. My way has been along that path, which runs over violated contracts and broken laws, a path too often darkened by the fierce conflicts of human interest or the bitterer warfare of human passions.

My business is to deal with man in strife with his fellow-man, or at war with the government in which he lives. I stand at the point where the antagonisms of society meet—where vice is most active, and frailty most conspicuous—whither human beings coming from all the diversied pursuits of life throng, in countless numbers—some to have justice awarded them, some to inflict its opposite, and others, an unwilling group, to expiate offences.

In seeking to be one qualified to mingle in such scenes, my vision has been almost shut out from the broad, bright fields of nature. The laws of vegetable life do not lie within the narrow circle of legal science. Advocates at the bar, Judges on the bench, do not teach how a plant must grow, on what it must be fed, and how, if sickness seize it, it must be cured. They look at soil only to determine *boundary* and title. They do not interrogate the earth to find out its ingredients—they put no questions to the air to discover its elements. The law has its mysteries, but the "mysteries of the hail" and snow, of the dew, and rain, are not of them.

But although thus cut off by vocation from the pursuit and study of Agriculture, I yet am interested in its prosperity.

It claims my regard as the earliest and noblest occupation of man. It appeals to my interest, as the supporter of every other interest in a State. As a man claiming to be civilized, I venerate it as an essential element in all civilization. As an American I hail it as the surest defender of the liberty of my country. By these more general claims I stand connected with the occasion and its theme—but you are united to both by closer ties.

* We commend the following able address to the careful perusal and study of every citizen of Missouri. The subject lies at the foundation of all civilized States; and the benefits derived from improvements in agriculture are not less important to the inhabitants of cities than to those of the country. Therefore the subject of agriculture addresses education itself to the merchant, manufacturer and mechanic with as much propriety as to the farmer.

To you, Agriculture, as an art or sciedce, can never become an abstraction; you look upon it always in the concrete. The strong tie of interest binds you to the soil, and your success in life depends upon its proper culture. The subject comes home to your bosoms and business. How to sow? and how to reap? are questions which have their origin not only in your vocation, but in your relations also. As husbands, fathers, masters, you put such questions, and the noblest feelings of your nature become interested in the reply. On that reply may depend your ability faithfully to discharge the duties incident to those relations.

The Government has given you a large discretion, as to the manner in which such duties shall be discharged, but the broad confidence of our laws does not impair the obligation of that trust. How your children shall be reared, educated, and fitted for success in life, and for bearing their part in the maintenance of constitutional liberty, is not penned in any statute of our State. The law of the domicil is with us an unwritten code. We trust the instincts of nature, enlightened by civilization, liberty and religion—we impose no sanctions for the breach of them. But beyond these endearing relations (furnishing, as they do, active stimulants to enquiry,) your broader relation to all other pursuits and avocations, imposes upon you the duty to know everything that may advance the cause of agriculture. The soil untilled for a single year would spread famine over the earth! Your philanthropy asks for knowledge—your interests demand it—your affections in their loftiest yearnings crave it.

The daily mysteries of vegetable life around you make knowledge a necessity.

These are some of the considerations which have brought you here to-day, to *the first industrial exhibition of the first Agricultural Society ever organized within our limits under the patronage of the State.*

I wish I could bring the tribute of knowledge to this beginning of a new era in the history of our agriculture. I would seek no higher honors than to identify my name usefully, with a movement of the human mind, directing the energies of our people, and the authorities of our State, on that line of achievemnt which may elevate the art of agriculture, in its widest scope, to the dignity of a science.

I feel, sensibly feel, that to me such honors can never attach; but I trust that I may not entirely fail *to show that the highest attainments of science are yet to be won from the soil she has neglected; and that the highest duty of the State is to place agricultural education within the reach of all her sons.*

I leave behind me many topics upon which I have refledted with pleasure—intimately connected with my theme. I pass by many inviting fields, which have allured thought, since I accepted your invitation, and proceed to the consideration of the two propositions just advanced. In a single address, I do not know how better to appropriate the time allotted me in this interesting scene.

And first—Can science be successfully applied to agriculture? Is all known that can be known, which tends to multiply the fruitfulness of the earth, and perpetuate its fertility? Are the laws of vegetable life within the reach of the human mind, and if so, will a knowledge of them aid the agriculturist in the practical operations of husbandry?

I put the subject in the interrogative form, because I know that a wide prejudice has already answered—It is a prejudice hoary with age. It has entered the halls of legislation, but is not the peculiar possession of that class of politicians, who do not rise to the stature of philosophic statesman. Unhappily by a hurtful contagion it has spread to some, themselves tillers of the soil.

Now a small portion of this prejudice must be treated as a disease of the mind, which no sanative can heal; but much the larger part of it rests upon plausibilities, within the reach of correctives. Some of this error may yield to the unaided power of a definition.

Science is *not* merely theory—nor is it mere practice. It is neither speculation, nor experiment. Science is *knowledge.* It may be reached in many ways—sometimes by a blunder—oftimes by accident; or it may be won by the harder and noble toil of the mind working by the rigid process of induction through series of experiments; but however attained it is *power*—power magnifying the resources of man and convertible to his use. Every successful farmer is to some extent a *scientific* one. There cannot be continued success in farming against the laws of nature. Whether he knows it or not, he has in the given case applied labor in harmony with these laws. To maintain otherwise, is to rebuke the intelligence of God.

The widest prejudice against the application of science to the art of agriculture, has arisen from confounding *science* with the operations of men who have gone to the fields, book in hand, trusting to reach judicious culture by a prescribed formula. I deliver over all such sciolists and smatterers to the appropriate awards of a poetical justice. If the "book farmer" has not succeeded, his failure was the result of one or more of three causes: First, the book did not contain the requisite science or knowledge; second, if it did, the farmer did not find it out; or third, he had not the practical experience or industry to apply the knowledge the book contained. I join in no crusade against books. They have been, and are, and will be in all coming time, the repositories of science. They are the caskets which contain the jewels of the mind, wrought by genius in every age. Yet unlike other caskets, while they collect they distribute also.

But, gentlemen, that would be indeed a rare book—invaluable as rare—which contained *all* the science necessary to the farmer. The art of agriculture demands the aid, not of one only, but of many sciences. The aggregate fills the entire circle of the natural sciences. The elements of agriculture have rested on botany. The indications of vegetable physiology have been, and yet are, the chief guides of the practical farmer.

Mechanics and hydraulics, are as essential to his yearly operations, as the seed he sows. Geology only, can accurately teach him the origin of his soils, the cause of the diversities which they frequently exhibit, not only in the same farm but sometimes in the same field, the nature and differences of his subsoil and the advantages he may expect in bringing them to the surface.

Meteorology makes for him her tables, showing the highest, the mean and the lowest temperatures, and also the quantity of rain that falls during each day and each month of the year—knowledge eminently useful for the proper culture of the land. While chemistry discloses the composition of soils—the composition of the atmosphere—the food upon which every plant must live—from whence obtained—whether from the earth or the air—the deficiencies of soils, to the growth of plants—and how the deficiency may be supplied, and when—the adaptation of particular soils to the growth of particular plants—the causes of exhaustion of soils—the means of restoration—when nature will supply deficiencies—and when man must do it for her, and how—the principles upon which alone, a judicious rotation of crops can be applied to a given soil—in a word, the office of chemistry is to explain the processes of vegetable life, in every stage of its being, and to show forth the results of decay and death. To this science agriculture must ever look for its highest achievements; other sciences may be important auxiliaries in every step of her progress; but chemistry must conduct her to prosperity. However dissevered, as they have been; however strife and ill-feeling may have come between them; however jealousy and ignorance may have disturbed their union, agriculture and chemistry are inseparably united; and what God hath joined together let no man put asunder.

Look at the art of culture as it now obtains in our country, is it not essentially a chemical art? You put lime, or gypsum, or guano on your land—what are they but chemical agents? and why do you add them to the constituents of your soil? Is it not solely from the hope of chemical action? If you drain your meadows, or irrigate them, are you not seeking chemical action? If you subsoil—what are you in search of but chemical action? If you let your fields lie in fallow—what are you waiting for, but chemical action? If instead of rest you practice rotation in crops—on what principle can you explain your practice other than upon the laws of chemical action? Even your mechanical operation of plowing—what is it, but a means of inducing or facilitating chemical action? And when you come to the composition of your manures, whether vegetable, or animal, or mineral, or all combined, you are engaged in that which demands a large knowledge of the laws of chemical action. Knowledge of the constituents of your soil—knowledge of its deficiency—knowledge of what will supply that deficiency—and knowledge how, and from what source that supply shall come.

It is thus manifest beyond the reach of cavil—that the agriculturist, whether he knows it or not, and in spite it may be of the profoundest ignorance of chemistry, is nevertheless practically a *chemist.*

Will a knowledge of chemistry help the experimenter to his desired result? Ought he to rely upon the ascertained and established truths of science, or trust to chance? That is the question—that is the question. The question of this hour—the question of this age, put by me, with a gravity due to its importance—to every agriculturist in the land—to all who are indirectly interested in the pro-

ducts of the soil and to the public authorities. Upon a question so vital to the State—so big with results—so full of weal or woe to us in our day and generation, and especially to those who shall come after us. I would invoke the shades of our mighty departed for an answer. If it could be, Fort Hill and the Hermitage, Marshfield and Ashland, Monticello and Montpellier would each find a tongue, and rising high above them all, the solemn, benign and parental voice of Mount Vernon would give power and emphasis to the joint reply. Do you doubt what that reply would be? Differing widely as to the actual adjustment of powers in our Federative system, and sometimes apart upon the measures of policy—no dissension ever came between them as to the true position of agriculture. They loved the fields, and with a love that defied the intoxicating influences of power and the seductive spell of high station. Their graves are *farmers'* graves. At the Capitol, amidst cities, on the summits of mountains, cenotaphs and mausoleums speak in enduring marble the nation's gratitude, *but their bodies moulder in the soil they tilled.* When was it in their lives that a sentiment escaped from either of them adverse to the healthful influence of science on culture?

In their day and generation, amidst the monopolizing cares of State, when did either of them lose an opportunity to avail himself of any achievement of the mind calculated to increase the fertility of the earth? Or when did they fail to give to Science, on her pathway of toil, a cheering word? They were philosophers as well as statesmen, and in the quietude and repose of their fields—in that "solitude" which is "the school of genius" in the contemplation of Nature working out in her mighty laboratory, the processes of vegetable and animal life—their minds expanded to the measure of true greatness.

Some of them were surrounded by a philosophical apparatus, and worked in their *home* laboratories. Mr. JEFFERSON, while minister at the French court, found time amidst the engrossing cares of diplomacy, not only to watch the throes of a revolution, but to make himself master of every new discovery in science. The interest of agriculture engaged his special attention; every new implement of husbandry—every new mode of culture—every plant useful to man not grown in our land, became the object of his regard. His well known journey through the interior and south of France, and over the ranges of the lesser Alps, had for its motive the pursuit of scientific agriculture. If in that day an agricultural school or college could have been found in France or Switzerland, who can doubt that he would have been drawn to it by an irresistable attraction. Mr. Madison on his skillfully conducted farm, up to a late period of his life, kept pace with every advance of chemistry. His letters—the letters of Washington and Webster—form a beautiful and instructive portion of our agricultural literature.

But I turn from these bright names to call you back to your own farms, and to your own operations in husbandry.

You put gypsum on your land. In one district of country its effects are lauded, in another its efficacy is doubted, while in a third it is decried. How is that? and why is it? Is it the freak or fickleness of the mineral? Is the result in each case a chance medley? or does it spring from cause? Just so sure as that the earth we inhabit moves in its orbit round the sun by *law*, so sure is it that the result in each case is the effect of principle, and that principle science can discover.

Again, you put upon your soil animal manure—you find its action powerful and its effect permanent. Other animal manures act only for a time, and their effect is speedily exhausted. Do you know the cause? Chemistry can answer.

"Does a mixture of animal and vegetable manures prepare your land best for certain kinds of grain? Do you employ common salt, or nitrate of soda, lime, the ash of wood, bone dust, or any other substance with, advantage? In all these cases you observe chemical results, which you would be able to control and modify did you possess the requisite chemical knowledge."

Some barren soils are capable of reclamation—others not profitably under the present state of science. Is it not a matter of importance to be able to distinguish between them? But what is more particularly applicable to us—some soils that to the eye seem good will not produce. Now, by what rule will the common farmer work to give fertility to such land? Has he any rule? Ignorant of the disease, how shall he apply the remedy? Shall he experiment in the dark and work on as the sanguine Micawber lived—"in the hope that something will shortly turn up?"

By a beautiful economy in nature, many of the inorganic elements necessary to the growth of plants exist in the soil in quantities so small as to become appreciable only by a refined analysis. How shall the practical farmer detect their absence by the best use of his powers of observation? I repeat the question—how shall he work? Blindly in the dark? or growing tired of unprofitable toil, shall he shift the responsibility by selling out? or shall he call upon science to tell him the exact chemical constitution of the earthy part of his soil? Perhaps the reply of the chemist may be—"Your soil is excellent, and wants only a small portion of what is known to science as phosphoric acid, which you can supply at little more than nominal cost." Or perhaps he may suggest the presence in the soil of some one of the salts of iron, or other noxious principle easily and cheaply deprived of its hurtful influence by the application of well known chemical agents. In reference to such soils Sir HUMPHREY DAVY more than half a century ago, when agricultural chemistry was comparatively unknown, said—"the application of chemical tests to such soil is obvious—it must contain some noxious principle," (or be deficient in some necessary element, adds JOHNSON thirty years later,) which may be easily discovered and probably easily destroyed. Are any of the salts of iron present? they may be decomposed by lime. Is there an excess of silicious sand? the system of improvement must depend on the application of clay and calcarious matter. Is there a defect of calcarious matter?—the remedy is obvious. Is there an excess of vegetable matter indicated?—it may be removed by liming, paring and burning. Is there a deficiency of vegetable matter?—it is to be supplied by manure." Since his day soils are better understood, and in many cases chemistry can now accurately determine what a soil must contain before it will produce a given crop.

In our own country the value of chemical tests applied to the soil is abundantly established. I cite a few examples out of many furnished me by your Secretary, my friend MINOR, to whose enterprise and zeal you and the State are largely indebted for your present organization.

In the Agricultural Transactions of the State of Massachusetts for the year 1851, (a book which I would commend to those engaged in diffusing agricultural literature among our people.) I find recorded some authentic facts which illustrate the matter in hand. Professor MAPES, a gentleman of large attainments in various departments of science, furnished the results of the analysis of the soils of more than one hundred farms in the State of New Jersey. Take two or three of them:

He analysed the soil of a field of J. J. SCOFIELD, of Morristown, on which the owner desired to raise ruta baga turnips. It was found deficient of the following constituents of that crop: phosphate of lime, potash, organic substances, including a slight quantity of animal matter. These being supplied, the result was fourteen hundred bushels to the acre, as certified to the Legislature!

He also analysed the soil of a field of Dr. JNO WOODHULL, which he had appropriated to the growth of wheat, and from which he had the preceding year obtained less than fifteen bushels to the acre. After supplying the deficient constituents, he obtained, the succeeding year, fifty-seven bushels to the acre.

Another instance I cite, to show the value of subsoiling, under scientific direction. The farm of ROBT. RENNIE was deficient in its surface soil. Its subsoil by analysis proved to be rich in substances not contained in the surface soil. He prescribed subsoiling and a thorough mixture of upper and lower soils. The preceding crops were fifteen bushels of corn and sixty bushels of potatoes to the acre, but the succeeding one hundred and fifty bushels of ears of corn and three hundred and fifty bushels of potatoes. Once more: a field of a gentleman in Maryland had become barren under culture. It was reduced to a yield of one bushel per acre. He applied to a distinguished chemist, who on analysis, detected the absence of *but one* element of fertility—phosphoric acid. That element was supplied and the product was twenty-nine bushels of wheat to the acre. It is needless to multiply examples—these establish the connection between science and agriculture—but the union must be more complete.

I value at a high rate the practical skill—obtained by a long course of observation, possessed by many of our farmers—common sense, sound judgment, have done much for the soil, aided by little exterior information; and the light of Science will never dispense with the use of such qualities; but we cannot shut our eyes to the fact that, under our present system of culture, the soil of our country is undergoing exhaustion. Its richness, in the Valley of the Mississippi, will postpone the ultimate period of barrenness, but it must be witnessed by

those who shall live upon the earth when we have passed away, unless the process of exhaustion be arrested. The law of *supply* and *demand*, explains both the evil and its cure. That law is the great, primary law of Nature. Why does this noble river, on whose banks we stand, roll in ceaseless and perpetual flow on to the ocean? Whence comes its eternal supply? Ask the sea and the sun and the cloud, and they will answer. In this invisible air around us, are four elements, without which there can be no living thing—neither vegetable nor animal. Without them there must be universal death. Every moment in our lives we must have them, and so must every plant. The vegetable and animal kingdoms are the active, ceaseless, eternal consumers of these commodities. Why are they not exhausted? Why is it that the atmosphere, everywhere, still furnishes a supply to this never-ending demand? Go to Pompeii—dig up from its ruins a vase which has been covered by the lava of Vesuvius for eigtheen centuries—analyze the air it holds—and you will find in it the exact amount of oxygen contained in the same volume of atmosphere that plays around the highest peak of the Alps. Whence is this universal supply? The answer is: every animal that breathes, at every breath, absorbs oxygen and gives out carbon, while every plant in its respiration, takes in carbon and gives out oxygen. The indestructibility of matter, perpetuates this exchange of the two kingdoms through an eternal circle. This is the operation of organic *life*, but decay and death are pledged to the same office of restoration. Burn a plant in flame, and it disappears—all save its ashes. In life its substance was mainly composed of the four elements—oxygen, carbon, hydrogen and nitrogen—and these it drew from the air, while it contained also small portions of several substances which it did not get from the air. Now, in the process of combustion, death comes, and at the moment of dissolution, every element is set free, and what is beautiful, each element knows its place, and whither it must go. The elements of air have gone to their home, and what came from the earth is left upon it.

In regard to the laws regulating the supply of nitrogen—an element which in the form of ammonia—is so intimately connected with vegetable life, as to claim the special attention of the practical farmer—there is more uncertainty. Whether the atmosphere be its *primary* source, as most chemists conclude, or whether LIEBIG be right in his conclusion, that "is it a part—a *primary constituent* of the globe itself"—all chemists are able to trace the various secondary sources of supply of this essential fertilizer, and all concur in showing, that *upon man devolves a large portion of the work of restoration.* It is the great office of science to distinguish between the cases in which nature does, and does not, need the aid of man. Her processes are of themselves sufficient for her purposes—she can clothe the earth in verdure—and by decay and death she renders that verdure perpetual—but man tasks her powers, and by continual drafts on her fertility, he may reduce her to barrenness. To prevent this, what she demands of man, is, that after he has used what he has taken from the earth, he shall bring it back to her exhausted bosom, or if he will not do that, let him go to her magazines of supplies, wonderfully and bountifully provided, to meet the exigencies of his improvidence. The immense coal fields which lie imbedded in the earth, of vegetable origin, furnish a sample of her prudent forecast and care. The nitre beds of India and South America, are other instances—and in our own country, on the shores of Lake Champlain, in New Jersey and New York, beds of phosphorite have been discovered, more valuable than mines of gold. To supply what they furnish England expends a half million of pounds sterling every year. She sends her ships abroad, to other countries, and digs for bones on the field of Waterloo. And nearer to us the Mammoth Cave in Kentucky, constitutes an inexhaustible nitrate reservoir. I venture to predict, that one of the proudest achievements of science, will be to convert the yet undeveloped resources of the mineral kingdom into the richest and cheapest fertilizers of the soil. I venture also to affirm that science, will never reach her highest attainment for agriculture, until she has perfected a system of *specific* manuring—that is, a system of manuring, by which one or many chemical agents shall be classified and adapted to the supply of a given deficiency—or the correction of a vicious quality of the soil.

General and indiscriminate manuring must, as it seems to me, give way as science advances. The ordinary mode in which farmers supply nitrogen, is by the manure pile, collected from the stable, and the barn-yard; and animal manures are richest in this particular substance—but in them it takes the form ammonia, and ammonia has wings so nimble, that they need clipping. Science

only can perform that operation well. There is something very curious and interesting in nitrogen. It presents an anomaly in nature. If it had anything to do with the affairs of State, some politicians would affirm that it presented the beau-ideal of what is sometimes called a "masterly inactivity"—others might maintain that it was a happy illustration of the "manifest destiny" doctrine; while an ardent Whig would be sure to claim it as a "conservative and against intervention"—it would become a Taleyrand in politics, and could live in favor, under every dynasty. In the air it is in the midst of very active, and combustible agents, that have a wide range of affinities, prompting them to unite with many substances—but nitrogen is characterised by its utter indifference to all other substances—it has an apparent reluctance to enter into combination with any of them.

Whenever by the force of circumstances it is compelled to unite with something else, it remains in union, only because of its tendency to remain in the same place—and the slightest cause will disunite it from its compounds—yet it is an invariable constituent of plants, and during their life, is subject to the control of their vital powers; but the moment the mysterious principle of life ceases to influence it, it disengages itself, and promotes decay by its escape. It forms much the largest portion of the atmosphere, and saves nature from total destruction, by the check which its indifference opposes to the activity and energy of oxygen. It is the great conservative power of nature—but its disposition to be released from all other substances, and the slight force necessary to its escape, demand the minutest care of the practical farmer, when he wishes to restore it to his soil. This gas and hydrogen form ammonia—and the votatility of the ammonia of animal manure must be *fixed*, or you can never cart it to your fields. The agency of man in the supply of nitrogen, is a clear necessity. It is doubtful whether the nitrogen of the atmosphere, either as gas or in solution in water, ever enters *directly* into the living plant. If at all, it does so in quantities too small for its supply. It comes to it in the shape of compounds, as ammonia, nitric acid, and other compounds, some of which are produced by the decay of animal matter.

The volcanoes of the globe furnish ammonia—the consumption by burning of coal fields contributes indirectly to the supply of nitrogen. The electricity of the atmosphere aids in its production—but the farmer cannot rely upon these operations of nature for supplying the continued demand for nitrogen created by continued cultivation. Animal life is a great consumer of this element. The fields are exhausted of it by the demands of cities, crowded with population, and, unhappily, what is thus carried away never returns. Lastly, this element is much less abundant in nature outside of the atmosphere than any other of the organic elements.

The supply of the remaining element, hydrogen, is not, in any important respect, dependent upon the agency of man. Its main source is water, in its various forms, and the artificial application of this bountiful fluid, to the garden and the field, seems to be the limit of man's action in the premises.

I pass from the elements of air to those of earth. When a plant is submitted to flame, we have seen its organic elements are given back to the air, while an *ash* remains which fire does not destroy. This ash constitutes the inorganic portion of plants. It forms so small a part of the plant, that for a long time it was supposed this organic matter, derived from the soil, was accidentally present, and could be of no essential or vital consequence to the plant. Science has for ever expelled this error. Careful experiments have shown—

1st. That on whatever soil a plant is grown, if it shoots up in a healthy manner and fairly ripens into seed, the QUANTITY and QUALITY of the ash is nearly the same; and

2d. That though grown on the *same soil* the quantity and quality of the *ash* left by no *two species of plants* is the same—and that the ash *differs* more *widely* in these respects the more the plants differ from which the ash is derived.

It is thus certain that these inorganic constituents contained in the ash are essential parts of the plants—that they cannot live a healthy life and come to perfection without them—and the practical consequence is that the farmer must supply these inorganic substances to every deficient soil. If anything was needed to make this conclusion absolute, it was supplied in the experiment which establishes that if you take a healthy young plant, and place it on a soil where it cannot obtain this inorganic matter found in the ash of the mature plant of its species, it droops and dies.

Who in view of this great truth, can deny the importance of Science to Agriculture? It establishes a clear relation between the kind and quality of the crop—and the chemical composition of the soil on which it grows.—It makes it as easy to know how to feed a plant as to feed a sheep. It shows how some manures permanently fertilize a soil, and how some crops permanently impoverish it. It explains the action of mineral substances upon plants, and how the dead earth is turned into food for the living. It shows what a soil must contain, and thereby how it must be improved. It is a truth that must ultimately control all the important operations of husbandry. It is not confined to the fields or the meadows. It can be carried to the orchard and the garden.—The root of a tree selects from the soil the *kind* and *quality* of inorganic matter required for its life. Any other tree may be grafted upon it, provided it requires the same kind of inorganic substance in nearly the same proportion in its natural state. On the orange the lemon will grow—because the inorganic food of each is nearly the same—but the fig and grape cannot be engrafted on the orange tree. They need more lime, and potash, than the orange wants for its life—and the air cannot furnish them to the graft. The dependence of the graft for its inorganic supply, is on the roots of the tree upon which it is engrafted.

These inorganic elements, identified with vegetable life, are twelve in number, found generally in combination with each other, or with oxygen. And here, the agency of man is a fixed necessity. Over this wide field of science it is not my purpose to pass. I do not know how to tread it, but I know that chemistry over every foot of that way, is the best guide of the practical agriculturist, even where his steps are most familiar—and that if he will follow her, she will conduct him to triumphs to be won on paths never by him trod before.

Chemistry is young, her step is cautious, but firm, and her progress sure. She holds the key which unlocks the mysteries of nature, and her mission is to open to the gaze of man the wonderful and varied adaptations of the earth, and air, and sea, provided for his use. In the beginning God gave man dominion over the physical world, and chemistry must explore and survey the extent, and show forth the riches of his kingdom. She does not work as the Alchemist worked—she does not toil to find out in matter a quality which God never bestowed upon it. Her business is with the practicable and attainable. She learns the properties and uses of matter, and brings her acquisition as an offering to the varied pursuits of man. She opens the medicine chest of nature to the Physician—she furnishes a safety lamp to the miner in his pit—she puts a mask on the face of the needle-maker which, charged with loadstone, winnows from the air the metallic dust, destructive to his life. She enters the foundry and the workshop—the distillery and the artist's studio—the pottery and the printing-room—the mint and the manufactory—and wherever she enters she brings the tribute of knowledge. But though she wanders thus, on her mission of benevolence, her widest domain is in the field of husbandry.

It is not surprising that our farmers lack knowledge in Agricultural Chemistry. Chemistry itself, has not lived one hundred years as a science.

Agricultural Chemistry is much younger. Sir Humphrey Davy died in 1829; his lectures before the Royal Society of Agriculture in London, [the first serious effort in that department of science] were delivered about fifty years ago. Organic Chemistry is of still later date, and Geology has only within this century taken position as a science.

Agricultural chemists themselves differ on some propositions of the highest practical importance, and they have yet before them a wide surface in nature unexplored. All human science is progressive, and the sciences of observation, [of which chemistry is one.] are peculiarly so. But it may be safely said, that of all sciences known to man, the advances of chemistry have been the most rapid since she took her place in the circle of the sciences. Her power of analysis, while it opens to her the most hidden laws of nature, secures to her results the certainty of which belong to the exact sciences. A chemist may err—he may attempt to deduce a law from facts too limited in number, or character; but his imperfect or erroneous generalization cannot long escape the scrutiny of his own or others' experiments. The conflicts of opinion now going on among the distinguished chemists of the world, in regard to some of the processes in nature connected with vegetable and animal physiology, will end in knowledge.

The practical farmer, by his carefully ascertained facts, will aid the chemist at his crucible, and the chemist will bring back to the farmer knowledge of the laws by which nature works in the field of husbandry. This knowledge is indis-

pensable. Every farmer is in partnership with the atmosphere and the soil' Like every partnership, it is a relation of trust and confidence—and, as in every other partnership, the farmer ought to know the duties of the other members of the firm as well as his own. He should know the work assigned to each of his copartners, and how they work, lest he may counteract their labors by his own —and he should also know when to rely upon them, and when not. More than all, when they call upon him for assistance he should know how to furnish it. It is not my hope to see every farmer a chemist, so skilled as to be able to analyze the constituents of a plant or the ingredients of his soil. That is not my expectation. But I trust the day will come when the constituents of every plant grown by our farmers will be known, and the ingredients of every soil on which they are grown, shall be known also. My hope is, that this knowledge will be diffused and rendered familiar, so that it may be applied by every intelligent agriculturist in the State. Astronomy calculates the rise and set of the sun and moon, and the periods of eclipse ; and the world appropriates the results of the astronomers. NEWTON discovered the law of gravitation, and men who are not philosophers, realize the idea and apply it in a thousand modes of usefulness. Genius finds out the hidden power of water as a propeller on the sea and on the land, and now the locomotive and the steamer are the common engines of the world. And thus shall it be with the offerings which science shall bring to the art of husbandry.

[To be continued.

DEPARTMENT OF INTERNAL IMPROVEMENTS.

Warsaw and Rockford Railroad.

We have regarded the Warsaw and Rockford Railroad, and the Central Military Tract Railroad as among the most important lines in the great system of public improvements concentrating at the city of St. Louis; but it appearing from our observation that every attempt on the part of the public press of this city, to give direction or encouragement to any scheme of improvement in Illinois, was offensive to the people of that State, we have refrained from noticing these works, lest we should do them an injury instead of a benefit.

We deem it fortunate for the commerce of the Mississippi valley, and especially fortunate for the city of St. Louis, that there is a reasonable prospect of securing the construction of the Warsaw & Rockford railroad by the subscription of so small a sum as $200,000, and we sincerely hope that the appeal in behalf of this work, which we publish below, will receive that degree of consideration which its importance demands.—*Editors W. J. & C.*

St. Louis, November 3, 1853.

The undersigned, beg leave to call to your attention, as briefly as possible, a few facts, showing the importance to St. Louis of the Railroad, proposed to be constructed under the charter of the

Warsaw and Rockford Railroad Company. The Report of the Engineers made last June, with the map accompanying, shows the general outline, but as this was founded, to some extent, on a simple reconnoisance of the country, it was thought better not to present the subject to the people of St. Louis, until actual instrumental surveys had been made to demonstrate the truth of the estimate. These surveys have been made, under the particular management of W R. Kingsley, for some time the principal assistant of the Pacific Railroad, and by late report to the Board of Directors, fully confirms the estimates made in the original report.

The Warsaw and Rockford Railroad is designed—

1st. As *one* of the improvements in the navigation of the Mississippi river, by connecting *at all seasons* the foot of the lower rapids, with the head of the upper rapids, a distance of about 120 miles.

2d. By connecting the river with the different Railroads now in progress of construction, east and west (four in number), above the rapids, to make them to a certain extent tributary from the east to the Mississippi river, for the business that naturally should pass north and south.

3d. By connection with the Illinois Central Railroad Branch at Galena, and with the Fon du Lac Railroad in Wisconsin, to form a governing channel of trade, available at all seasons for northwest Illinois, Wisconsin and Iowa.

4th. By a connection from Alexandria with the North Missouri Railroad, and thus through St. Louis with the Mississippi valley Railroad to the Gulf of Mexico, to *always* (winter and summer) have for that portion of the great valley, *a route as available north and south, as on the many east and west routes now being constructed by eastern enterprise and ambition.*

Looking at the first division of the road (from rapid to rapid) as simply an improvement of the Mississippi river, it may be contended that the improvements to be ultimately made by the general government for the navigation of the rapids may dispense with the necessity for the Railroad. But who can tell when these improvements will be made. Eastern enterprise and capital have been freely used to control the trade above the rapids, and draw it by the *Lakes*, and *Railroad*, and *Canals*, to the eastern Atlantic shores; and this influence will, more and more be felt in the Halls of Congress. But it is undoubtedly the interest of the lower Mississippi river, and especially of St. Louis, not only to improve for steamboats the navigation of the Mississippi river, but also by Railroads, so as to give outlet *all the year*, for what the river only affords accommodation for during a *part of the year*. On this last fact is founded, to a great extent, the enterprise for roads east and west, above the rapids. They must succeed, but, if the west is true to itself, only by such development of the country as will give abundant business in all directions. If St. Louis, and

the lower Mississippi valley trust *solely* to the river, necessarily shut up by the ice of winter, for a part of the year, for the business of the upper valley—then must a much larger proportion of it pass eastward than would be the case if an equally convenient outlet was furnished southward at all seasons.

Along the upper Mississippi valley a very large proportion of the trade has been to St. Louis. Now they see other outlets are shortly (not yet) to be opened, in some respects more convenient *because always available.* They look to St. Louis still; and, desirous to preserve that connection, liberally subscribe for the construction of a railroad towards that city; but they look, also for *some aid from St. Louis.*

Looking at the Warsaw and Rockford Railroad in its connections, shown in 2 to 4 of the objects embraced in the construction, it needs no argument to show its importance to St. Louis and the lower Mississippi valley. An inspection of the map of route and connections of the road, suggests more reasons for its prompt construction than can be stated in this brief view.

The Warsaw and Rockford Railroad Company now stand in this position: They have a liberal charter, giving them all legislative facilities for the construction of a railroad from Warsaw to Nauvoo, and thence to any point of intersection with the Chicago and Galena Railroad. A local influence was created (by the difficulties of navigation over the Lower Rapids), for a railroad from Warsaw to Nauvoo, and considerable stock subscribed. But it was subsequently believed and advised that the 1st Division of the Road should embrace both rapids. This led to the survey and reconnoisance in March last, and subsequently to the instrumental survey, just completed. It was understood that St. Louis would take a reasonable interest in the work, and it was estimated that if the following basis for construction could be obtained, the work could speedily be completed, viz:

Now subscribed or provided for	$113,000
Additional subscription in Warsaw and Nauvoo	10,000
Pontoosuc	30,000
Dallas	10,000
Line of Road	50,000
St. Louis	200,000
Henderson county and Oquawka.,	100,000
Mercer county, Keithsburg and Millersburg...	100,000
Fort Madison	25,000
Rock Island city and county	125,000
Davenport, Port Byron, Galena, etc	50,000
	$813,000

On this the friends of the road in the upper country have exerted themselves, and have obtained subscriptions to the amount of.....$350,000

Henderson, Mercer, Rock Island Counties, &c., &c., to vote in November, the result not doubted, with encouragement from St. Louis..... 300,000

$650,000
Needed from St. Louis.....$200,000

It is now presented to your aid, with all others permanently connected with the commercial and real estate interest in St. Louis, to establish a fair basis for the prosecution of this work. It is not the desire of the Company to force this work to construction, against all the difficulties of the present money panic (not scarcity) in the market, but to so prepare themselves, by subscriptions, as to take advantage of the opportunities that may present themselves. They have resolved to make the subscriptions only payable at the rate of 30 per cent. per annum, and not even at this rate unless the way can be clearly seen to the successful prosecution of the work. The people in the upper valley look to St. Louis for aid, and unless that appears in some material form, it may be that the county votes necessary to secure a proper basis may be lost, and the interests and energies of the people there thrown to advance the Eastern connections, *in which direction they can always secure aid of word and deed.*

Your attention is particularly called to the Charters and Engineers' Reports published in July, 1853.

H. D. BACON,
D. A. JANUARY,
W. C. WAGLEY,
T. S. O'SULLIVAN, } *Committee.*

Pacific Railroad.

We are gratified to learn that the vexed question of location west of Jefferson City, has been finally settled by the Board of Directors. We copy the proceedings of the Directors touching this subject from the St. Louis Intelligencer.

St. Louis, November 14, 1853.

At a meeting of the Board of Directors of the Pacific Railroad Company, held this day, the following among other proceedings, were had:

A committee appointed at a previous meeting of the Board to examine into the validity, &c., of certain subscriptions made to the Pacific Railroad, submitted the following report, which was accepted, viz:

The undersigned committee, appointed "to examine into the character and validity of certain subscriptions made by certain counties, say, Moniteau, Pettis, Johnson, Morgan, Benton, Henry and Jackson, ask leave to report that they have performed that duty, and that they find the following persons fully authorized by the several County Courts to make additional subscriptions on the part of said counties, to the capital stock of the Pacific Railroad, to wit:

For Jackson county,	Wayman Crow,	amount,	$75,000
" Moniteau "	D. Rollins,	"	25,000
" Johnson "	B W. Grover,	"	50,000
" Morgan "	G. R. Smith,	"	25,000
" Henry "	do.	"	50,000
" Pettis "	do.	"	70,000

Making on the part of said counties,.....$295,000

Unconditional subscriptions———

In the following named counties we find the subscriptions on the part of individuals, amounting to

Moniteau county,	181	shares	.....	$13,100
Cooper "	420	"	.....	42,000
Morgan "	100	"	.....	10,000
Johnson "	248	"	.....	24,800
Lafayette "	255	"	.....	25,500
Benton "	18	"	.....	1,800

Making in private subscriptions.....$117,200

Amounting in aggregate.....$422,200

In regard to the private subscriptions above set forth, we are most positively assured by Messrs. Grover, Holden, Smith and Rollins, representing said counties, that the signatures are genuine, and that the parties are all able and willing to pay their respective subscriptions whenever the company may think proper to call for the same. The committee, considering the question of the "free right of way" in the Johnson county route as part of the duty contemplated by the resolution above quoted, have examined the bonds of various counties, and individuals guarantying the same, and find for

Cole county	the bond of	Messrs. Price and Cordell.
Moniteau "	"	A. R. Nelson and others.
Cooper "	"	Eli Stone do.
Pettis "	"	G. R. Smith do.
Johnson "	"	County Court.
Morgan "	"	late Howard and others.
Lafayette "	"	Isaac H. Wood do.
Jackson "	"	G. R. Smith do.

The original subscription lists, County Court orders, and right of way bonds, are in the possession of the proper officer of the Pa-

cific Railroad Company, and can be referred to, if your Board shall desire other information than contained in this report. All which is respectfully submitted.

(Signed) JOHN C. RUST, HY. S. PATTERSON, } Committee.

To Thos. Allen, Esq., Prest. P. R. R. C.

St. Louis, November 14th, 1853.

The following preamble and resolution was then unanimously adopted:

WHEREAS, The counties contiguous to and along the line of the inland route of the Pacific Railroad, and the citizens of said counties, have in good faith, as we believe, secured to the Company the free right of way, and additional subscription of four hundred thousand dollars, as required by the eleventh section of the act of the Legislature, approved December 25th, 1852. It is, therefore,

Resolved, That said Pacific Railroad, west of Jefferson City, be and the same is hereby located along the inland route, through Johnson county, to such termination in Jackson county, as shall be hereafter fixed by the Company, in accordance with the provisions of the Eleventh section of the act above recited.

Hickman and Obion Railroad.

South-western Kentucky and South-eastern Missouri, districts so long shunned by emigrants and neglected by capitalists, have recently become the theater of active and energetic measures in relation to public improvements. The men of these districts have had the sagacity to perceive and appreciate the fact that the natural point of connection between the railroad systems of the south-eastern and north-western States is below the mouth of the Ohio river, and they have shown a wise forecast in seizing upon the proper time to commence their operations.

Perhaps no other people ever had it in their power to develop their resources in as great a degree at so little cost. It is not necessary that they should build great trunk lines to connect them with distant parts of the Union. Let them ascertain and establish a point on the Mississippi where the two great systems can be conveniently connected, and they will encounter little difficulty in procuring the means to construct the short stems required to unite them with the great lines east and west of the Mississippi. By

establishing the practicability of a direct line, at a reasonable cost, from a point opposite Hickman, Ky., to the Iron Mountain, Mo., they will bring the influence and capital of those interested in the great lines leading to Mobile, to Savannah and to Charleston, to aid in constructing the work west of the Mississippi; for it is obvious that the profits of all those works will be greatly augmented by a connection with the Mississippi valley railroad. It is not our purpose to indicate the point of connection on the Mississippi: we leave that to those more immediately interested and better acquainted with the country. The people of Hickman have acted with commendable energy; and possessing a good situation for a commercial city, bid fair to draw the lines of improvement east of the river to that point. We learn from the "Argus" that seven miles of the Hickman and Obion railroad have already been put under contract to be completed by the First of December, 1854. Nor do they seem to confine their views to their own side of the Mississippi: the following preamble and resolutions adopted at a meeting of the citizens of Fulton county, on the 7th of November, 1852, show the enlarged and liberal views by which they are governed.

Whereas, The time is near at hand when a connection will be formed by railroad between St. Louis, Mo., and the Mississippi river below the mouth of the Ohio, and

Whereas, A railroad convention of the adjoining States is to be held at Benton, Mo., on the 14th inst., to devise ways and means to accomplish that object and designate the terminus for the same on the Mississippi river, and whereas in the opinion of this meeting, Hickman, Ky., presents under the circumstances the most favorable point for the same.

Resolved, That Fulton county and the town of Hickman will cordially co-operate with our Missouri friends in designating the point for said terminus, and aid liberally in the construction of the road.

Resolved, That by tapping the Mississippi at Hickman, the chain of railroad connection between the great Northwest and the South and Southeast would be complete—that there it meets the Nashville and Northwestern Railroad in a direct line for Nashville, Tenn., Charleston, S. C., and Savannah, Ga., also the States of Virginia and North Carolina; also the Mobile and Ohio Road with all their connections south and east—thus opening up to the mineral and agricultural interests of Missouri, a market without a parallel in extent and value.

Resolved, That the route from Hickman to Benton or its vicinity has been found to be entirely practicable for a railroad,

presenting no obstacles which are formidable; the Mississippi bottom being already levied and protected from inundation.

Twenty-eight delegates were appointed by the meeting to attend the convention at Benton.

St. Louis and New Orleans Railroad via New Madrid.

We find in the *Journal of the Times*, published at New Madrid, Mo., a well digested article entitled "St. Louis and New Orleans," in which the author proposes a railroad connection between these cities by a line crossing the Mississippi at New Madrid. The writer says:

,,In regard to this extensive road, this important fact should not be forgotten, that a large portion of it is already in contemplation, but with a desire to connect other points. This proposition is only an extension of a preconceived plan of roads. This proposed extension increases the chances of each division of the road, and strengthens the entire scheme.

The New Orleans and Jackson Road is now under contract. The road from Jackson to Memphis is regarded as a certainty. The St. Louis and Iron Mountain road is under contract in part —all located. The only link in the whole chain from N. Orleans to St. Louis, missing, is from the Iron Mountain to Memphis—distance about 160 miles.

The proposition and the facts are presented to the public. It may not be the best or most feasible plan which might be projected for connecting these points, but it is certainly the one some will regard as the best, most feasible, and more propitious of consummation.

It is of no ordinary importance to this line that the point proposed for a crossing is superior in every particular to any other on the river, from Cairo to New Orleans. The Madrid Bend banks are high on each side of the river, with no impediment from high water—the country on either side being entirely free from inundation—from swamps, or anything that could be regarded as an obstruction—*ad infinitum*. The climate is mild; no obstruction from ice has ever occurred here, nor has steamboat navigation ever been interrupted at this point by ice, low water, or otherwise. Another advantage of crossing at Madrid is, the connection the line in question will have with the Nashville Road."

We regard a railroad connection between St. Louis and New Madrid as being of sufficient importance to authorize the building

of a branch from that place to some point on the Iron Mountain road, whether such branch should ever become a link in the line of travel to New Orleans or not. But it is doubtless true that an extension of the line to Memphis would enhance the value of the Iron Mountain branch, and, until a more direct route can be obtained to New Orleans, would be of great advantage to St. Louis.

It should be borne in mind that the improvements of the age demand an approximation to air lines, and we trust that the enterprising citizens of New Madrid and Hickman will give this fact its due consideration before they determine on a route in the direction of St. Louis.

Lake Erie, Wabash and St. Louis Railroad.

Few of our readers, we believe, are aware of the steps which have been taken in the prosecution of this important enterprise; and fewer still, perhaps, have contemplated the peculiar office which this road is calculated to perform, by connecting the Lake Erie and Canadian systems of navigation, railroads, and commerce with the great central system of the Mississippi valley at St. Louis. The following extracts from an "Exhibit of the Lake Erie, Wabash and St. Louis Railroads" cannot be otherwise than interesting to all our readers.

[From the American Railway Times.]

The valley of the Maumee River, from the mouth on Lake Erie to Fort Wayne, and that of the Wabash River, thence to its south bend near Lafayette, form in their course a direct track, as far as the last named point, between Toledo and St. Louis. The work herein presented under the name of "The Lake Erie, Wabash and St. Louis Railroad," is a constituent part of line from Toledo to St. Louis, and represents the Indiana portion of that line, in length, 168.54 miles. The following remarks, unless otherwise expressed, refer to the road in Indiana. The Ohio portion from Toledo to the State line of Indiana, 75 miles in length, under the title of the "Toledo and Illinois Railroad," will be prosecuted at the same time and by the same parties, (though necessarily under different organization,) for which due arrangements have been made, by a perpetual lease of the Ohio road to the Indiana Company. These combined lines will introduce us into an existing chain of roads now nearly completed, through Illinois to Alton and St. Louis, and

command, also, the other outlets of the Mississippi as high as Burlington

CHARTER.—The company derives its charter under the general Act of the Legislature of Indiana, of May 11, 1852. "To provide for the incorporation of Railroad Companies" Its organization was completed by the election of officers on the 1st day of September, 1852. A through survey of the line has been made, under the direction of William Durbin, Esq., an experienced Civil Engineer, the results of which are very satisfactory. Traversing one of the most extended and productive valleys in the West, whose staples for many years have swelled the markets of New Orleans and more recently (since the Wabash Canal was completed) those of Toledo and Buffalo, following the lines of commerce, starting from the most Western extreme of Lake Erie, and approaching the city of St. Louis, this work began very soon to attract public attention in the Atlantic States. For the cities of Boston and New York especially, the Wabash Valley has ever been regarded the natural route to St. Louis. It would have been sooner occupied with a railroad track, but that the jealousy of Ohio and Indiana for their canals denied to companies a charter, until a more enlarged policy under their new constitutions, opened the way to private enterprise by the general Railroad Laws of each of those States, lately passed.

SUBSCRIPTIONS.—Subscriptions to the capital stock of the Lake Erie. Wabash and St. Louis Railroad have been made to the amount of two millions of dollars. Of this, $700,000 were taken in Indiana, and $1,300,000 in New York.—Among the shareholders are names prominently connected with our oldest and most successfull railroad enterprises, and well known in that relation, both in Europe and America.—An instalment of ten per cent. has been paid, and further requisitions will be made monthly, as it is intended the work shall advance with the utmost rapidity.

CONSTRUCTION.—A contract has been made with Messrs. Boody, Ross & Co., of New York, to build, furnish and equip the entire line of road by the first day of May, 1855. The contract covers the road bed, and its superstructure of wood and iron, with the necessary side tracks, station houses, machine shops, and other buildings and fixtures, including a suitable and speciefied outfit of rolling stock, all to be finished and furnished as a first class road. The contractors, being men of great experience, having built with great success other important roads, (among them and most recent, the "Rochester, Lockport and Niagara Falls," and the "New Jersey Central") the company have the most reliable assurance that their work will be well executed and with signal dispatch.

COST OF THE ROAD.—The contract cost of the road with its furniture and equipment, will be a near approximation of four milli-

ons of dollars. As this covers everything but right of way and depot grounds, with some small amount of contingencies, the entire cost of the road in motion, with a suitable outfit of rolling stock, may be set down (including interest during construction,) at $4,500,000. The work has been apportioned to sub-contractors, some of whom are at work, six corps of engineers being engaged in repairing the line. — Releases of right of way are being taken, which in Indiana are generally voluntarily, or will cost but an inconsiderable amount.

Local business.—No better illustration of the probable productiveness of this stock or of the business of the road can be given, than its position on the map, indicating its connection with the Western system of land and water carriage.—A brief explanation, however, of some of its local and domestic resources, will be appropriate. Pursuing a middle latitude, it passes through a region where wheat and corn equally abound, and reaches at its western end the country of pasturage. More cattle have passed the Wabash River at Attica, (where the road leaves the river,) than at any other point. The Maumee and Upper Wabash sections are forest lands, covered with a steady growth of burr and white oak, black walnut, poplars, wild cherry, curled maple, &c. At Lafayette, the road enters the eastern margin of the prairie world, which stretching west to the Rocky Mountains, requires its supply of timber from behind. This timber will go westward to the Mississipi, for house building, fencing, cabinet work, cooperage, and other mechanical uses. — The lumber traffic is now a profitable one on every Ohio and Indiana road, and none more so, than those approaching the prairies. The market for lumber west of Lafayette, is boundless, and this article alone would furnish a daily train of cars. Saw-mills are arising every five miles on our newly finished roads. * * * *

Commands both sides of Lake Erie.—A road from St. Louis along the continuous valleys of the Wabash and Maumee, commands what no other St. Louis road can do, both sides of Lake Erie, and connects itself thus, with almost equal directness, with both the Canadian and American systems east of Toledo. Public opinion has already settled in favor of this as one of the cardinal routes, and as uniting not only large cities, great waters, and entire systems in our own country, but as part of a continental work connecting two nations, and adding to an internal water commerce already very extensive, the increased facilities of a land commerce by steam, at the very moment when our neighbors are endeavoring to make that connection available from the Detroit river to the mouth of the St. Lawrence.

COMMERCIAL RECORD.

In connection with the general view of commerce and finance contained in the leading article of this number, we commence the publication of a "COMMERCIAL RECORD," wnich we design to continue in each succeeding number, provided our labors in this department should receive the approbation of our patrons.

In making up the "Commercial Record," we shall always aim to collect our facts from the most authentic sources, selecting only such as we may deem useful and worthy of being preserved for future reference.

We cannot expect to do full justice to this department in the beginning; but trust that when our arrangements for procuring facts shall have been completed, a few months of observation and practice will enable us to give method and form to the "Commercial Record," that will make it acceptable and useful to individuals engaged in every branch of business.

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November 15, 1853.

Owing to the low stage of water in the Mississippi and its tributaries, and the high prices of freights, from the month of August to the present date, the receipts of produce at St. Louis, though comparing favorably with the same period in 1852, have been much less than dealers were authorized to expect from the abundant crops produced in all parts of the country tributary to this market.

The effects resulting from the difficulties of river navigation during the current season cannot all be foreseen at present: but, as collections in the interior depend in a good degree upon the sales of produce, one of the consequences will be a scarcity of money for mercantile purposes until the opening of navigation in the spring.

On the 5th instant freights from St. Louis to New Orleans were quoted as follows: flour $1.20, pork $1.75, per barrel; and other descriptions of produce from 65 to 75 cents per 100 lbs. Such extreme prices were calculated to suspend transactions in produce, and could not be long maintained. Since then a rapid decline has taken place, and we now quote the following as the current rates: flour 50 cents; pork 87½ cents; whisky $1.00 per barrel; corn 40 cents per sack; other descriptions of produce from 35 to 40 cents per 100 lbs.; cattle $8.00, and hogs $1.50 per head.

The crop of cereals, with slight exceptions, is abundant throughout the valley States; and though fluctuating, prices have been highly favorable to the producers.

WHEAT.—Sales reported to-day ranging from $1.06 to $1.20 per bushel. At New York, prices (reported by telegraph) of Western $1.75; Genesee $1.80; Southern $1.65; Pennsylvania $1.85;—export demand large. The quantity of wheat delivered at tide water by the New York canals, from the opening of navigation to 7th inst. inclusive, amounts to 6,767,178 bushels against 5,471,495 for the same period in 1852.—Increase 1,295,683 bus.

FLOUR.—The receipts of this year will exceed those of 1852 by perhaps 50,000 barrels. Sales to-day of superfine and extra brands at from $5.75 to $6.18 per barrel At New York (same date,) sales are reported for State at from $7.00 to $7.06; Ohio $7.12 to $7.25; Southern $7.25 to $7.33; and at New Orleans, on 12th inst., the price of superfine flour was reported at $7.00 per barrel. The quantity delivered at tide water by the New York canals up to 7th instant, is 2,421,472 barrels against 2,859,346 barrels in 1852—decrease 437,874 barrels.

CORN.—Sales at from 38 to 45 cents, as in quality, sacks included. Sales at New York of this date: mixed 80½ cents, yellow 82 cents. From appearances the receipts of this year will fall below those of 1852.

The receipts of flour, wheat, corn and barley at tide water from the New York canals, for the first week in November, in 1853 and 1852 have been as follows:

	Flour, bbls.	Wheat, bu.	Corn, bu.	Barley, bu.
1853.....	96,143	308,609	58,711	132,587
1852	143,812	288,212	66,176	306,914
	Dec. 47,699	Inc. 20,397	Dec. 7,465	Dec. 32,291

The aggregates of the receipts of the above articles so far for the years 1853 and 1852, have been:

	Flour, bbls.	Wheat, bu.	Corn, bu.	Barley, bu.
1853...	2,421,472	6,767,178	2,812,698	1,938,527
1852...	2,859,346	5,471,495	5,031,948	1,508,855
	Dec. 437,874	Inc. 1,295,683	Dec. 2,221,250	Inc. 429,772

The receipts at tide water of the principal articles of produce, from the opening of the Canals to and including the 7th instant, have been as follows:

	1851.	1852.	1853.
	Canal open	April 15.	April 20.	April 20.
Flour.....bbls.....		2,885,292	2,859,346	2,421,472
Wheat.....bush.....		2,680,150	5,471,495	6,767,178
Corn.... ..bush.....		7,293,843	5,031,943	2,312,698
Barley ....bush.....		1,215,183	1,508,855	1,938,527
Oats.....bush.....		.....	.....	3,305,239
Beef .....bbls.....		41,716	37,674	39,080
Pork.....bbls.....		45,024	69,379	105,000
Butter.....lbs.....		5,487,200	3,659,600	2,936,900

Lard.....lbs.....9,270,800	9,869,400	11,305,900
Bacon.....lbs.....10,822,100	9,656,100	19,909,400
Cheese.....lbs.....18,128,600	11,753,000	5,606,300
Wool.....lbs.....10,337,200	7,531,200	6,098,400

The receipts last year from November 7 to the close of navigation, which extended into the month of December, of flour, wheat, corn and barley, were as follows:

Flour.....bbls..... 604,772	Corn.....bush.....379,695
Wheat.....bush.....1,283,451	Barley....bush.....771,630

If we reduce the flour to wheat, allowing five bushels to the barrel, it will be seen, that the quantity of wheat delivered at tide water, in 1853, is 893,690 bushels less than during the same period in 1852. This added to the 2,221,250 bushels, decrease in the quantity of corn makes the aggregate delivery of these two articles less by 3,114,940 bushels than during the same period of last year.

When we take into view the high prices of these commodities in New York, and the facilities of transportation from the lake region and from the States east of the Alleghanies, a strong presumption arises that the spring and summer supplies of breadstuffs for the eastern cities and for exportation must be drawn chiefly from the valley States, and that prices will continue to rule high throughout the season, even if friendly relations should be restored between Turkey and Russia at an early day.

Tobacco.—The receipts for the present year are estimated at 9,907 hogsheads and 8,832 boxes. The crop of 1853 is not expected to exceed that of last year.

Hemp.—It is believed that but little of the old crop is left in the hands of the producers. The amount received during the year is estimated at 61,522 bales against 53,331 bales in 1852. Prices have been highly remunerating to the growers. Sales of three small lots reported to-day at $120, $122 and $127 per tun.

Lead.—The quantity received up to the present time is reported at 397,410 pigs against 416,985 in last year. The imports of the year will probably exceed the amount received in 1852 by a few thousand pigs. Prices have ruled high during the season. Sales of 1137 pigs Galena reported to-day at $6.40—a silght decline from former prices.

The *Galena Jeffersonian*, of the 10th inst., contains the folfowing interesting statistics of the products of lead in that region, furnished by Capt. Edward Bebee, of Galena, Illinois.

Years.	No. Pigs.	Price.
1841	452,814	not known.
1842	447,909	$2 24
1843	559,261	2 34
1844	627,672	2 80
1845	778,498	2 96

Years.	No. Pigs.	Price.
1846	732,403	2 89
1847	772,656	3 17
1848	681,969	3 24
1849	628,934	3 67
1850	568,589	4 20
1851	474,115	4 08
1852	408,628	4 12

It will be seen that the total production of lead in the past 12 years has been 7,140‘248 pigs; or *four hundred and forty-nine millions, eight hundred and seventeen thousand, three hundred and sixty pounds!* At an average price of three dollars twenty-four cents and sixty-three one hundredths ℔ lb, or a total of $14,602,410. Of this lead, nine-tenths has been shipped from Galena.

The effect of the California emigration upon the quantity of lead produced, is seen clearly in the table above. In 1848, when the fever was raging most violently, the falling off is most visible. The decrease has been rapid until the present year, though the lead actually dug has all the while had the benefit of a rising market. The flood of emigration is turning this way again; and we hope, at the close of navigation, to be able to say that the product of this year exceeds that of 1852 by 50,000 to 100,000 pigs. Enough is now known to warrant us in asserting that the increase will be considerable, though the precise figures cannot be set down.

Hogs.—The hog crop of the Western States is believed to be more abundant than for several years past. Packing has not yet commenced at this point; and prices remain unsettled. We learn that $4.00 per 100 lbs. has been offered. At Cincinnati, on the 11th inst., the market was reported dull, with small sales of extra hogs at 4¾ cents per lb. The sale of the hog crop will compensate, in some degree, for the large quantity of cereals, which must be withheld from market during winter.

Salt—.The quantity received at St. Louis during the present year has fallen below that of 1852. We quote Turks Island at $1.50 per sack, and Kenhawa at 50 cents per bushel.

Sugar.—The receipts during the current year have been large. Arrivals of the new crop, up to the present date, have been small. Prices are quoted at 4 to 4¼ cents for fair, and 4⅜ to 4½ for good.

Molasses.—Prime plantation selling from store at 25½ to 26 cents.

The stringency which has characterized the money market for several months still continues. Dealers in negotiable paper secured by Deed in trust on real estate readily obtain from 12 to 15 per cent. per annum. But the rates of exchange would seem to indicate that money in the hands of the bankers was in quantity sufficient for all legitimate business transactions. Exchange on

the eastern cities has stood at ½ per cent premium during the season, and on New Orleans and Cincinnati at par. Bank issues of other States (denominated currency) constitute almost the entire volume of circulation in Missouri.

The following table exhibits the rate of discount at which the bank notes of other States are purchased by the brokers of St. Louis:

Alabama	3 p. c. disc.	Maryland,		N. Carolina	3 p. c. disc.
Connecticut	1 "	Baltimore	1 p.c.d.	Ohio	1 "
Delaware	1 "	count. b.	2 "	Pennsylvania	
Georgia	3 to 4 "	Massach.	1 "	Philadelphia	1 "
Illinois	1 "	Maine	1 "	country b.	1 to 5 "
Indiana	1 "	Michigan	3 "	RhodeIsland	1 "
Kentucky	1 "	N.Hamp.	1 "	S. Carolina	3 "
Louisiana	1 "	N.Jersey	1 "	Tennessee	2½ to 3 "
Vermont	1 "	Virginia	1 "	Wisconsin*	1 "
		NewYork	1 "		

* Fire and Marine Insurance Company 3 per cent. discount.

The banking system of Illinois seems, thus far, to have worked well; and the registered notes of Illinois banks are generally prefered by the people to the small notes of eastern banks. Notwithstanding the late failure of the Massillon bank was calculated to excite a greater degree of caution on the part of the community, confidence appears to remain unshaken in the solvency of western banks in general. The New York banks are gradually strenghtening their specie basis, and their deposits are on the increase; while at the same time they are slightly contracting their circulation and loans. It will be seen from the following statement, that the increase of specie in the two weeks, ending on the 12th instant, was nearly $2,000,000.

Weekly Statement of the New York Banks.

	Loans.	Specie.	Circulation.	Deposits.
Oct. 29, '53,	$83,400,321	$10,866,672	$9,300,350	$53,335,462
Nov. 5, '53,	83,092,630	11,771,880	9,492,158	55,500,977
Nov. 12, '53,	82,802,409	12,823,575	9,287,629	56,201,007

It is to be regarded as a remarkable feature in the commerce of the country, that a severe stringency should occur in the money market at a period when the precious metals were rapidly accumulating.

The following statement from the *Washington Union*, which we find to be correct so far as we have compared it with public documents, shows the accumulations of the precious metals from the year 1847 up to October 31, 1853 inclusive.

Deposites of California Gold at the Mints.

Philadelphia Mint.

In 1848.....	$44,177 00
1849.....	5,481,439 00
1850.....	31,667,505 00

1851	46,939,367 00
1852	49,321,490 00
1853 (to July 30th)	38,080,253 85
Total	$172,034,231 85

Branch Mints.

	Dahlonega.	Charlotte.	New Orleans.	Total.
1848	———	———	$1,124 00	$1,124 00
1849	———	———	669,921 00	669,921 00
1850	$30,025 00	———	4,575,567 00	4,605,592 00
1851	214,072 00	$15,111 00	8,769,628 00	8,998,865 00
1852	324,931 07	28,361 76	3,777,784 00	4,131,076 83
1853, (to J'y 30,	260,607 78	15,399 49	1,389,208 02	1,674,215 29
Total	839,635 85	58,872 25	19,183,286 02	20,080,794 12

Add deposites at Philadelphia mint	172,034,231 85
Total California deposites to July 30, 1853	192,115,025 97

Subsequent Deposites at Philadelphia Mint.

August, 1853	4,469,000 00
September, 1853	2,975,000 00
October, 1853	4,327,000 00
Total California deposites to Oct. 31, 1853	203,886,025 97

We have thus the amount of gold of California production received at the mints up to the 1st of November, except the deposits of the last three months at the branch mints, which are not likely to have been of sufficient magnitude to make them material to our purpose. The next thing to be considered is the amount of specie exported from the United States, and this we are enabled to exhibit with sufficient accuracy. Official documents show that the entire exports and imports of specie, from 1847 (the famine year) to 1853, were as follows:

	Imports.	Exports.
1847	$24,121,289	$1,907,739
1848	6,360,224	15,841,620
1849	6,651,240	5,401,648
1850	4,628,792	7,522,994
1851	5,453,592	29,472,752
1852	5,503,544	42,674,135
Total	52,718,681	102,823,888
		52,718,681

Excess of exports over imports of specie for six years	50,105,207
Add exports for the first ten months of 1853, as ascertained from returns and estimates, say.....	25,000,000
Total export of specie.....	75,105,207

The whole question may then be briefly stated as follows:

Receipts of California gold to Oct. 31, 1853....$203,886,025 97	
Exports of specie from 1847 to Oct. 31, 1863...	75,105,207 00
Net increase of specie.....	128,780,818 97

That a considerable portion of this money has been drawn from the ordinary channels of commerce for the purpose of building railroads is doubtless true; but it has been infinitely better employed in this way than if all had gone to swell the volume of foreign commerce. In this, the country has acted wisely: and having received a wholesome admonition from the stringent state of the money market, we conclude that the prospect of rapid and progressive development of our national wealth was never brighter than now.

The high prices of iron, and other useful metals, have given a new impetus to their production; and causes are operating in this and other countries which authorize the hope, that the production of iron in the United States is about to be established upon a more solid and permanent basis. The following article from an English paper contains facts and suggestions highly interesting to all who desire the growth of the iron trade in this country. We copy from *The United States Mining Journal.*

The Iron Trade of Great Britain.—Its Present Condition and Prospects.

The firmness of the iron market, notwithstanding the increased value of money, and the unsettled state of our continental relations, is naturally engaging attention. It appears that production is, at least, stationary, if not reduced, that the stock of iron is diminished; and that the demand has greatly increased.

It is worthy of enquiry, whether this anomalous position of the iron trade is merely temporary, or is likely to be maintained. The present position of the iron trade is anomalous; inasmuch as in all former periods of prosperity, it was pretty evident that, however large the existing demand, the supply would soon overtake that demand; and, in all probability, so far exceed it as to create a fresh period of depression, which could be relieved only by a still greater demand.

Any one who has watched the progress of manufactures in Great Britain during the last thirty years, and has observed the prodigious increase in the demand for iron,—from half a million tons annually to two millions and a half,—must have been struck with the remarkable coincidences which have enabled the supply to meet the demand. Had it not been for the discovery of the carbonaceous iron ores in Scotland, and the introduction of hot-blast in smelting iron, the production in Great Britain would not have exceeded one-half of the present amount; and the recent discovery of the oolite iron ores in the midland counties of England appears singularly opportune for maintaining a supply of minerals adequate to the still increasing demand.

It is true, there is a temporary deficiency in the supply of coal; but no one who is conversant with the subject can doubt that the opening of new coal fields would, ere long, obviate that difficulty. Materials for iron making are found in this country in sufficient quantity to meet any conceivable demand that can arise.

A novel impediment has, however, unexpectedly presented itself; and it is an obstacle by no means easy to be overcome. For the first time in our acquaintance with British manufactures, a scarcity of labor threatens seriously to interfere with the progress of production. This scarcity will, in a great measure, be counterbalanced in several of our staple manufactures—such as the woollen, silk and cotton—by improved machinery and the more extensive employment of women and children; but these resources are not available in the manufacture of iron. The manual labor of strong men is, and will be, the chief instrument in that manufacture. Mining may be assisted by machinery; but it must be mainly dependent on the sinews of robust men; and it can never be carried on by women or children. Emigration has already taken away hundreds of miners, and thousands who might have become miners, if they had remained in England; and emigration will take away hundreds and thousands more.

Under these circumstances, the probability is that, while the demand for British iron will continue to increase, the production will, for some time to come, remain nearly stationary, if it does not actually recede. The difficulty of procuring miners, and other workmen required in the manufacture of iron, will be an obstacle to the erection of new iron-works, however profitable the speculation may appear; and the same circumstance will interfere with the extension of iron-works now in operation, particularly those in the hands of prudent and calculating proprietors, who wisely consider that, by attempting to extend their works in spite of the scarcity of labor, they may so enhance the rate of wages as to lessen the aggregate amount of their profits.

If these views are correct, either the export of iron or the consumption at home, or both, must shortly receive a considerable

check. The general prosperity in this country has undoubtedly given an impetus to the home consumption of iron, which is probably at least ten per cent greater now than it was two years ago. We have no means of accurately ascertaining the home consumption; but knowing the quantity of the iron made, and the quantity exported, we can very nearly approximate to the quantity required at home. The make of pig-iron in the years 1851 and 1852, may be put at 2,600,000 tons annually; and the present make does not materially vary. The exports in those two years were equivalent to rather more than half that quantity; so that, after making allowance for improvement in trade at home, it may be fairly estimated that 1,400,000 tons pig-iron is now required for home consumption. The exports of iron having so increased in the present year as to leave little more than half the required quantity for home consumption next year, supposing the make and the export of iron both to remain at the present rate, is a fact which must soon press itself upon the attention af makers, consumers and merchants. Judging from the past, and taking into account the extraordinary stimulus given by recent circumstances to foreign trade, the exports should be much larger in 1854 than in 1853. The quantity of iron exported in 1850 was equivalent to 1,100,000 tons of pig-iron; in 1851, 1,300,000 tons; and in 1852, 1,450,000 tons. In the first eight months of this year, the export is equivalent to 1,245,000 tons of pig-iron, which is at the rate of 1,870,000 per annum. This quantity, deducted from a total make of 2,600,000 tons per annum, would leave only 730,000 tons for home consumption, which is about half the estimated quantity required.

The following statement exhibits a detailed account of the exports of iron from the 1st of January to 31st or August in the present year:—

	Declared value.	Equiv. in pig-iron.
Pig-iron.....Tons228,305	———...Tons	228,305
Bar, bolt and rod 474,144	———	632,192
Wire 6,395	———	9,592
Cast 38,589	———	40,510
Wrought, sundry sorts....119,600	———	159,466
Steel..... 12,976	———	25,952
Tin-plates ..... ———	£826,334.....	45,000
Steam-engines ..... ———	305,857.....	20,000
Machinery..... ———	826,057.....	40,000
Hardware and cutlery..... ———	2,300,990.....	45,000
Making.....Tons		1,246,025
Add 50 per cent. for four months, Sept. 1 to Dec. 31,		623,012
Total.....		1,869,037

LITERARY DEPARTMENT.

Some Thoughts on Self Intellectual Culture.

BY A MEMBER OF THE KEOKUK (IOWA) BAR.

Continued from page 60.

And here, permit me to make one or two observations, concerning reading. The object is, the acquisition of knowledge. And knowledge does not consist simply in the recollection of facts and incidents and dates, but in the comprehension of principles, in the understanding of the various relations of things, their nature, constitution and analysis. Their essential properties, modes of subsistence, peculiar affinities, and natural conditions and vicissitudes ought to be investigated, comprehended and mastered. We ought clearly to understand what we read, appreciate the author's reasoning, exercise fearlessly and independently our best faculties in forming opinions and embracing conclusions; and when we reach results, we ought to incorporate them with, and make them a part of, the very constitution of our mind. Nothing short of this, will be productive of permanent usefulness, or establish independent, high-toned, vigorous habits of thought; nothing short of this, will confer ornament upon character, or dignity upon human nature; nothing short of this, will produce and nurture that stern independence of soul, that fixedness, solidity and energy of moral principle, and that plain, practical transparent philosophy so intimately connected with all the duties and pleasures of life, and which exercise so majestic and sweeping an influence in the daily walks of life.

He who adopts the opinions of others upon simple trust and confidence, surrenders recreantly the best gift and the highest jewel of God's bounty to the eternal spirit. He who yields his judgment implicitly to the conservation of another, is unworthy the name or the privileges of a Freeman. And I unhesitatingly affirm that no man can with fidelity discharge the duties he owes his God and his country unless his cherished opinions are the deliberate acts and fruits of his own best judgment.

And who, permit me to ask, dares to attack this birthright of a free citizen? Who dares to take into his own keeping the intellectual freedom and the immortal interests of another? He who would thus rob us of our dearest rights: rights whose title-papers bear the seal of high Heaven, and assume responsibities periling his eternal welfare, is a traitor to his country, an enemy of his race, and an apostate from his God. Let it constitute the pride and glory of the American, to assert the independence and pre-eminence of his judgment, to adopt sentiments and conclusions with due discrimination, to base his action upon an intelligent appreci-

ation of his position and his duties, and to vindicate his moral and intellectual freedom everywhere, and at all times. Let him not in a spirit of arrogance and pride rashly reject what he cannot comprehend, or treat with levity or contempt the opinions of others, but let him study with diligence, examine with patience, preserve an impartial mind, and rely upon it, the conclusions he may thus reach will be formed of sterling material, and prove of infinite value. They will wear well amidst the vicissitudes of life, and acquire brightness and polish from attrition. They will elevate and enrich and adorn character, and resting upon the foundations of justice, their influences will be recognized and felt far beyond the period of our present existence.

I have alluded thus earnestly to the subject of independent thought, because it is not to be concealed that there is a spirit abroad in our country hostile to its manly exercise and full development. Individuals are frequently charged with arrogance for an independent expression of opinion.. There are those in our midst who seem to imagine they possess a chartered power and an incontrovertible right to think and act for, and dictate to their fellow-men. This *individual* disposition is continually illustrated in our daily social and business intercourse, and its *associate* development and transcendent dominion in our political and ecclesiastical organizations. This mighty influence, when thus exercised, is wrong, radically wrong! It is war upon our liberties, treason to our nature, and we must resist it. And to accomplish this successfully, to understand intelligently our relations, and maintain our freedom, moral and religious, civil and intellectual, we must cultivate our minds, enlarge the sphere of thought, and faithfully use all the powers which Heaven has bestowed upon us.

Another most vital and efficient means within our power of promoting mental culture, of acting upon the public mind, and impressing its influences upon all, is in the delivery of public lectures. This is comparatively a modern element in the intellectual revolution, now in progress throughout the civilized world, and more especially in our own country. This means of instruction, until very recently, was principally confined to the academy, the cloister and the university, which were supposed to be the favorite retreats of genius and learning. Knowledge was so enshrowded in scholastic phrase, and so elaborated with metaphysical disquisition as to conceal its beauties, paralyze its energies, and destroy its utility. Few persons were admitted to minister at its altars or to pay their devotions within its temples. The ground was consecrated to a privileged order; and the great mass of the people, the fresh, vigorous, elastic mind of the adventurous and enterprizing were excluded most studiously from its presence and all participation in its ennobling influences. But as the human mind awakened to a sense of its rights, and became conscious

of its energies and its true position and dignity, this infamous system of exclusion was broken down, and the lights of knowledge began to illume the face of society. The barriers that separated the wise and learned from the ignorant and uncultivated, were prostrated we trust forever, and the genial influences of knowledge extended to all. Mere pretensions to Literature became subordinate to solid acquirement, the senseless jargon of the schools could not withstand public scrutiny, and the abstractions of an airy metaphysician yielded to the profounder reasonings of an enlightened philosophy. Knowledge is now presented in her natural grace and beauty, disrobed of her unmeaning decorations; captivating and delighting her votaries with her elegant simplicity, and scattering her imperial gifts so that all who will may enjoy them.

Lectures have now become a popular and efficient medium for the communication of solid and useful information, and have aided and are now aiding essentially in promoting the cause and multiplying the influences of public instruction. The lecturer possesses an important advantage over the mere writer. He can amplify more in his arguments, illustrate his principles by experiments, employ a more diffuse and ornate style, and give to fancy a stronger wing and a loftier flight. And if to these, he superadds the gift of eloquence, his empire is unbounded. He can lead his audience captive to his will, explore with them the depths of science and the sweetest flowers of poetry, point out the exquisite performances of art, ascend amid

> "The planets, suns and adamantine spheres
> That wheel unshaken through the void immense."

And while he improves the understanding and feasts the imagination, he can direct the enraptured mind to the imperishable attributes and immortal destinies of the soul.

I would, therefore, most earnestly urge the great importance of lectures as a useful, convenient and economical mode of arresting public attention, awakening the slumbering energies of mind, communicating general and accurate views and principles of the arts and sciences, directing youth in the pursuit after knowledge, and creating a thirst for more extensive and profound erudition.

A larger portion of the lectures which are delivered, are not only distinguished for their extraordinary ability and learning, but for the force of thought and eloquence which they bring to bear upon the cause of individual and social advancement. Many of them are indeed perfect gems of literature, cherished jewels in the crown of genius, concentrations of all that is vast and profound in philosophical investigation, or grand and impressive in intellectual character. Here, science pursues her arduous journey, and tells the story of her sublime discovery; here, elegant literature contributes her fairest flowers, and pictures her loveliest productions; and here, imagination shadows forth her grandest conceptions, and gives form to her most beautiful creations.

Genius, too, that strange mysterious power, that spark of celestial fire, careering onward amid the infinity of space, now mounting up amid the sun and stars that gem the heavens, and now contemplating the beauty and grandeur of earth, now winding her way amid the deep recesses and solemn retirements of the soul, and anon soaring aloft amid cloud and storm and tempest, riding on the whirlwind, flashing in the lightning, she, too, brings her noble offering to this common altar, to enrich, to purify and to enlighten. Examine these lectures. Where can you open upon richer veins of thoughts and eloquence! Where can you find nobler essays on humanity, higher reaches of intellect, purer strains of morality, profounder researches in philosophy, and more extended views of government? Nowhere in the whole range of written thought. They stand forth, peculiar and powerful instruments, in advancing civilization, and in establishing the glorious triumphs of mind, reason and religion.

It is believed that many young men of fine talents and generous disposition are, by this means, lured from the haunts of dissipation, and for the first time, impressed with a consciousness of their own duty to society, and of their capacity for self-improvement and distinguished usefulness. The diamond is not the less valuable because it lies buried in the midst of rude materials, nor is the human mind less susceptible of every great and good impression because it remains plunged in the veriest depths of ignorance and vice. Truly has the poet said:

> "Full many a gem of purest ray serene,
> The dark unfathom'd caves of ocean bear;
> Full many a flower is born to blush unseen,
> And waste its sweetness on the desert air."

And, perhaps, the impassioned speaker, whose lips are touched with the fires of eloquence, may communicate a kindred spark to some rustic mind, whose faculties have slumbered, and might have slumbered on forever, and kindle a flame there, that will burn and expand; and though the frosts of neglect may chill, and the winds of adversity may blow, yet it will continue to acquire volume and intensity until neighborhoods and states and empires shall feel its genial warmth and bow beneath its consuming power.

And to you of my readers, whom education and fortune have blessed with superior gifts above your fellow-men, I would say you are under solemn responsibilities to lend your influence and talents in promoting this important enterprize in the cause of human progress. I speak not lightly when I say, your education and intellectual treasures constitute a sacred trust to be faithfully executed, and you cannot, without a violation of duty, withhold your acquirements from the use of the public. Your talents are not your own; there are obligations, springing out of their possession, that compel you to render unto your fellow-beings all the good within your power.

And exists there an educated citizen who would not cheerfully contribute to the public happiness and prosperity, and who would not rejoice to strike the finest chords of the soul, and fill them with the riches and harmonies of learning? Is there one who would not experience a holy, ravishing transport of joy to transfuse a high and sublime thought into the mind of another, which would grow up in greatness there, acquiring new powers, invested with new properties, grappling with new combinations, and which in its novel and regenerated state would be transmitted through future generations as the richest legacy of the human intellect?

How grand the thought of Newton when the apple's fall led to the explanation of one of nature's mysteries! How expanded the conception of Columbus, when he saw in prophetic vision, a world vast in its extent and mighty in its elements, as yet untrodden by civilized man! How profound the idea and transcendent the joy of Franklin in drawing the lightning from the bosom of the distant cloud and guiding its course in its rapid flight! How lofty the conception and how illustrious the triumph of Fulton, when the effect of steam upon the business of life, and the mighty influences it must exercise upon the destinies of man burst upon his transported soul, and revealed themselves in all their prospective glory and majesty! Oh! there are thoughts in our midst, thoughts overflowing with precious interests to our race; thoughts pregnant with immortal fires which might light up nations to happiness and peace; thoughts which, if transplanted to some genial soil, would take root and flourish and expand and ripen into harvests of untold and endless value. And it is by the free interchange of mind, by the reciprocal transfusion of thought, and by the sovereign, searching influences of great principles of human action and conduct, that these important ends are to be accomplished. Let us then earnestly lend our assistance in enlightening the public mind, and strengthening its moral tone so that a consciousness of duty performed may be ours to shed a ray of light upon the evening of our lives. We know not how many youths may thus be educated to read and think, and hereafter become intelligent and useful citizens, through the influence of such humble yet honorable efforts. We know not how many anxieties of a father may be relieved, how many prayers of a mother answered, how many hopes of a sister realized. We know not what joy and sunshine may illuminate the social hearth, what great and lasting good may result to our country, even from such occasional gatherings to aid the cause of learning and morals and civilization amid the broad prairies and majestic forests of our own great West.

Another very important means of improvement within the reach of every neighborhood is the establishment of debating societies. In a country like our own, where the honors and emoluments of public life are open to all, and where every citizen is liable to be

called upon to participate in the political deliberations of the Republic, the importance of public speaking is obvious. This can only be successfully acquired in youth, and by long and persevering exercise; and we know not, how many of the young men who grow up in indolence and obscurity, might by early culture and diligent study, have become distinguished ornaments of society. Debating societies elicit the various powers of the mind, and test their strength and capacity. It is in the collision of intellect, in the generous pride and emulation of controversy, that we sometimes first become conscious of our sleeping energies, and draw successfully upon their great resources. It was in this humble yet glorious field of conflict, that many of the master spirits and giant intellects of the age, whose philosophy enlightens and whose eloquence electrifies, first fought their battles and measured their strength, and won their laurels; and it is in this same field, that many a struggle will take place, and many a victory be hereafter achieved by those, who will in after days, become the strength of their country's defence, and the jewels of their country's greatness.

These societies exercise an excellent influence in leading the young mind to habits of attentive reading and reflection. If a youth is desirous of communicating his ideas to others, he must first master those ideas, and make them his own. He is compelled to think deeply and comprehend clearly in order to encounter successfully the arguments and address of his antagonist. He knows that his weak points will be assailed, and perhaps his strongest fortresses either openly attacked or covertly undermined unless he is thoroughly guarded and ceaselessly vigilant. This is one of the most useful results flowing from these associations. They inspire confidence, lead to careful investigation, and establish mental and moral independence. And the accomplishment of these ends are worthy the highest efforts of our race. They elevate man to that rank in the scale of creation, comporting with his nature and destiny, and which God throughout all time designed him to occupy. It ought to be remembered in conducting these societies, that their object and true purpose, are to interchange our views, to mutually instruct each other, and to invigorate and discipline the faculties of the mind, and not to engender a spirit of mere controversy, or cherish a foolish love of argumentation. The cardinal objects are the ascertainment of truth, the acquirement of habits of severe logical reasoning, and clearness, order and fluency in the expression of thought, as well as a chaste and graceful style of delivery.

If these societies are properly regulated, and conducted in a spirit of generous emulation, they will be productive of vast and extensive good; but, if, on the contrary, they are used as instruments to gratify personal pique, or to display personal arrogance, or to encourage the exhibition of the ingenuity of sophistical reasonings, they will result in permanent injury to both mental and moral improvement.

The fifth and last means to which I shall allude as connected with our intellectual progress, is the cultivation of habits of observation. These possess a peculiar and striking value, as the works of nature und the productions of art are everywhere around us, and continually before our eyes. The great and miscellaneous volume of God's workmanship belongs to us all, to be read and studied and admired. The creations of genius, elaborate and magnificent, belong to the world, and the "possessor's narrow claim" cannot prevent the man of taste and sensibitity from enjoying their beauties and feasting upon their wonders. Machinery, too, with its Briarean arms, its mathematical exactitude and stupendous energies, working, producing, never tiring, presents an object of exceeding wonder and astonishment. All these, in the philosophy they teach, in the genius they exhibit, in the exquisite beauty and finish they manifest, in the glowing imagery they embody, in the sublime emotions they excite, and in the elevating and refined pleasures their contemplation yields, belong to us, to the world, to future generations. Every individual, I care not what may be his situation in life, or amid what scenery he may have been cradled, has forever before him objects worthy of his most serious observation, and overflowing with profound instruction. He cannot turn his thoughts within himself without being filled with wonder and awe; he cannot allow them to wander abroad without admiring the grandeur and glory and diversity of God's works. An individual of observing habits must necessarily be intelligent. Observation implies reflection, mental exercise, intelligent thought, and these constitute the original elements of all true greatness. We ought, then, to acquire these habits of observation in our youth, and cultivate them assiduously throughout life, for they will prove a source of unmixed delight and happiness. New pleasures will continually spring up and adorn our path, new and pleasing trains of thought be ever suggesting themselves, and new and grateful scenes be ever present to the imagination; and the earth, the air, the ocean, and the heavens will administer to the improvement of our minds, the refinement of our taste, and the exaltation of our affections. The theme is one so delightful and interesting, so linked with loved associations and cherished reminiscences, that I would be pleased to dwell upon it, to unfold its beauties, to demonstrate its dignity and usefulness, and to bathe the imagination in its untold glories. But we have not the time to do so.

[To be continued.]

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

Continued from page 60, vol. XI. No. 67.

LORD DUNMORE'S WAR IN 1774. BATTLE OF KENHAWA, OR POINT PLEASANT, UNDER GENERAL ANDREW LEWIS. INDIAN CHIEFS RED HAWK, SCOPPATHUS, ELLINIPISCO AND LOGAN.

Some took refuge in the forts which had been built; whilst others collected in houses, which were easily converted into temporary fortresses. Fort Redstone, (the present Brownsville in Pennsylvania,) on the creek of that name, and Fort Pitt, were the principal asylums for the people of the exposed frontier.

To avert this impending storm of barbarian warfare, a formidable expedition into the enemy's country was now determined on, by the government of Virginia. This was to consist of two bodies of troops, one to be commanded by Governor Dunmore, and the other to be commanded by Col. Andrew Lewis. The plan of operations agreed upon, was that the Colonels Charles and Andrew Lewis should raise a body of troops among the hardy, fearless and skillful riflemen of the western part of Virginia and North Carolina, who, down to our own times, have continued to form the most formidable arm of the western country of the United States. Gov. Dunmore was to march a body of men from the northern and eastern counties. These two wings were to unite at the mouth of the great Kenhawa, then, by treaty with the Cherokees, the western boundary of the province of Virginia. About the 1st of September, 1774, the western wing of the expedition assembled at Camp Union, (now the town of Lewisburg in Virginia.) While the troops for the main expedition were thus collecting, and arrangements were made on a considerable scale for this campaign of the royal governor, it was thought advisable to despatch another expedition of inferior strength, and consequently susceptible of more rapid movement, into the Indian country. It might distract the combinations of the enemy, and divert his inroads from the frontiers. For these purposes, Col. Angus McDonald raised a body of 800 men, who, early in June, 1774, assembled at Wheeling. The party succeeded in penetrating to the banks of the Muskingum; but without doing the enemy any material damage, beyond and burning their slight and frail villages. So insignificant was the impression made on the Indians, by this expedition, that as our men returned, the savages followed their footsteps spreading barbarities wherever the precautions of the inhabitants had not disappointed their vengeance.

The western wing of the expedition was divided into two regiments, of four hundred men each; one commanded by Col. Charles Lewis, of Augusta, Virginia; the other by Col. William Fleming, of Bottetourt county; the chief command was confided to Col. or rather Gen. Andrew Lewis, the same who had been honored by Washington as Major in his first regiment, in 1755. There was likewise a company of volunteers commanded by Col. John Field, of Culpepper county, another from Bedford, under Capt. Buford; and two companies from the Holston country, then in dispute between the colonies of North Carolina and Virginia.

One of these was commanded by Evan Shelby, the father of Isaac Shelby, the future governor of Kentucky, who served as a subaltern in his father's company. The latter three companies composed part of a regiment under the command of Col. Christian, who was hurrying to join the main body. This, now, amounted to eleven hundred men, and commenced its perilous march to the point of junction, which had been fixed by Lord Dunmore, at the mouth of the Big Kenhawa. A march through a mountainous wilderness of 160 miles, which after a lapse of nearly eighty years, still remains to a great extent, was an enterprise of no little peril and difficulty. It was to be prosecuted through a country peculiarly favorable to Indian ambuscade, and against the most warlike force of the north-western tribes of Indians, a part of whom had, but 19 years before, almost annihilated a British army, furnished with all the apparatus of war. This was the first considerable enterprise against these Indians since the defeat of Braddock; except the march of Col. Bouquet to the Muskingum; that officer, however, brought the Indians to submission, without any actual engagement. Such auspices would have been dismaying to any men, but the brave and experienced backwoodsmen of the western country. They had seen the tactics of Europe fail before the sons of the forest, when their own military notions, imbibed from local and personal experience, would most probably have preserved the royal army with its general from a murderous defeat. Trusting to their own native resources of skill and courage, they transported their provisions on pack-horses, all, that an obstructed wilderness would permit. After 19 days' march, the army, under the guidance of Capt. Mathew Arbuckle, succeeded in reaching the Ohio river, where the Great Kenhawa enters into that stream. There, at the point between the two rivers, since known as Point Pleasant, an encampment was formed for the accommodation of the troops, until the eastern wing, under the command of the governor of Virginia, should arrive. Runners were immediately despatched up the Ohio to obtain intelligence of his Lordship.

In the meantime, information was received from him, that he had changed the whole plan of operations, upon the faith of which the mountaineers of Virginia and North Carolina had risked their lives through a wilderness of unequalled difficulties. Notwith-

standing this pledge of military co-operation, which ought for the most obvious reasons of safety and honor to have been held sacred, Lord Dunmore had determined to march across the Indian country to the Shawnee towns on the Scioto; of this he informed Lewis, and ordered him to join there.

It is difficult to determine, whether folly or perfidy prevailed most in so unprecedented a departure from his own plan of co-operation, as exhibited by this new and dangerous scheme of the royal governor. The danger to which he exposed each wing of the army, of being successively cut off by the enemy, in its separate march, into the Indian country, would point to the former solution of this extraordinary military disappointment; while the madness of proposing a concentration of his forces—not *before* they entered the enemy's country, but in the very heart of it, where the army must have conquered all antagonists before it would have been allowed to make such an advance as this—would seem more probably to implicate the fidelity of the governor to the colonists. It may, however, be too wanton suspicion, to accuse the royal governor of an intention to sacrifice his left wing; yet his conduct was as dangerous to that body of his forces, as if it had proceeded from the most deliberate treachery. Circumstances in the subsequent course of this nobleman's official conduct, almost justify these suspicions of his motives; they were, indeed, entertained by the legislature of Virginia.*

On the 9th of October, 1774, the discouraging intelligence of altered plans was received by Gen. Lewis from Lord Dunmore, through some Indian traders.† The next day, the devoted band, thus treacherously abandoned by their commander-in-chief, still taking counsel from their own brave hearts, determined to penetrate deeper into the Indian wilderness. It was not so easily done, as it was readily adopted.

Early in the morning of the 10th of October, 1774, two soldiers proceeded up the Ohio bank, for the purpose of killing game; they had got about two miles from camp, when they suddenly discovered a large body of Indians rising from their encampment. The enemy, on seeing the two white hunters, fired and killed one of them; the other escaped to warn his fellow soldiers of the impending danger. To his commander, he communicated the fact that "he had seen a body of the enemy covering five acres of ground, as closely as they could stand."‡ Gen. Lewis immediately ord-

* Wirts Henry, 148, 256.

† Simon Kenton says: *he* had been so employed; but reached Point Pleasant before Lewis, and concealed his despatch in a hollow tree. While loitering about, he was fired upon by some Indians, who dispersed his party, and he made his way back to Louder's Fort, on the west fork of the Monongahela. McDonald's Sketches, p. 208.

‡ Proceedings of the Historical Society of Virginia; they contain an interesting account of this important action, by an actor in this perilous scene. Vol. I. 45.

ered out a detachment of the Bottetourt troops, under Col. Fleming, and another from those of Augusta, led by Col. Charles Lewis; while the general remained in camp with the reserve. Our troops marched up the Ohio bank in two lines and met the Indians in the same order, about four hundred yards from the Virginia camp. The battle began about sunrise with a heavy fire from the enemy, which drove the Virginians back; but being reinforced by Col. Field, the Indians now retreated, forming a line behind logs and trees from river to river. Thus our countrymen were completely hemmed in, between the Ohio and the Kenhawa. In this desperate position, with no chance of retreat, and but little of outflanking the foe, the battle raged with a ferocity and destruction unparalleled by any other encounter, between our countrymen and the aborigines.

At the outset of the engagement Col. Charles Lewis was killed, and Col. Fleming was wounded; Col. Field fell, the next victim of high rank. To these must be added five captains, three lieutenants and several other subalterns, amounting with the privates to seventy-five killed and 140 wounded; almost every fifth man in the detachment was either killed or wounded. With this prodigious execution by the Indians, fully retaliated by our own riflemen, scarcely at all inferior to the enemy, in any of their wily arts, the hostile lines alternately advanced and receded, covering both sides of the intervening trees with bullets and blood.

In this fearful and obstinate contest, Gen. Lewis apprehensive of protracting the battle till night, ordered Capts. Evan Shelby, George Matthews and John Stuart to proceed with their companies, into the rear of the enemy, and then turn upon them.* This most fortunate monoeuver was effected by marching up the Kenhawa, as high as Crooked Creek, one of its branches, under the concealment of the high banks and the growth with which they were covered. So soon as the detachment reached its destined position, and began to fire on the enemy, they, fearing, as is supposed, that the reinforcement under Col. Christian, which was known to be on its march, had arrived, began to retreat, about sun down, precipitately over the Ohio, to their towns.

This memorable battle, which has for its importance in western history, been to little known, was fought with the flower of the north-western tribes, in the meridian of their strength, and commanded by some of their most distinguished chiefs.

Among these was Cornstalk, a chief of the Shawnees; he had the principal command assisted by other gallant spirits of the Red men, but whom our ignorance and the early contempt of our people mixed with no little hatred, for their barbarian enemies, preclude from any notice beyond their names. They were Red Hawk, a

* Geo. Shelby's information to Col. Chas. T. Todd confirms the account in Border Warfare, 127.

Delaware chief; Scoppathus, a Mingo; Ellinipisco, a Shawnee, and son of Cornstalk; Chiyawee, a Wyandot; and Logan, a Cayuga.* The distinguished leader of these forest forces is said to have opposed the war; and wanted to go with a flag of truce, on the eve of the battle; but he was overruled by the resentments or the heroism of his people. When the battle had been determined on, the energies of this chief, like a true patriot, were all exerted for the honor, if not the benefit of his countrymen. He was frequently recognized encouraging his men, whenever they slackened in their efforts, by calling out to them in his native tongue: "Be strong, be strong." When an Indian faltered in the performance of his duty, Cornstalk instantly cleaved his head with his tomahawk, as a warning to his followers of his discipline and fierce determination.

A few hours after the battle, Col. Christian arrived with a reinforcement of three hundred men; much to the relief of this gallant and hard tried body.

On examining the battle field, 21 Indians were found lying dead, 12 others discovered behind logs and other concealments, besides many that were observed to be thrown into the river, during the battle. It was one, indeed, which deserves a high place in the history of the ruthless contest between the white and the red races, for the lovely and luxuriant land of the west—the interior world of North America—this new paradise of plenty and liberty for the children of the axe and the plough. No instance is known in our annals of so fair and pitched a battle between the two races; unresisted, on the one hand, by the peculiar military arts of Europe, and on the other, by the ambuscades which constitute the fortresses of the forest. Neither party was unequally armed, no artillery; it was an unmixed trial of native arts and familiar arms, in which a brave and skillful use of the rifle mainly decided the battle, with the exception of the happy diversion up the Kenhawa. This battle may well be pronounced a pure contest of hard fighting which covered the riflemen of the west with honors as durable as the mighty section of the republic, which it so essentially contributed to conquer from the savages. In this encounter were completed, if not formed, some of the most efficient commanders in the west; it proved a most invaluable military school for our population. The roll of officers in the battle of Kenhawa, or Point Pleasant, embraces the names of most of those who, in after times, signalized themselves in the great contest for the valley of the Ohio and its waters. The Campbells, both William and John, Isaac Shelby, George Mathews, afterwards a governor of Virginia, John Steele, William McKee, Charles Cameron, Bazalel Wells, Daniel Boone, and James Harrod, were actually engaged. Cols.

* Border Warfare, 129.

Christian and Floyd, of future fame, tried their utmost to get up in time for the battle.*

After throwing up an entrenchment, at the junction of the two streams, which had been the seat of the late battle, for the protection of the wounded, Gen. Lewis, more true to his duty than his commander in chief, proceeded still deeper into the fastnesses of the enemy, and marched his troops on the route to join Lord Dunmore, at the head of the right wing of what should have been the combined army of Virginia. This advance into the stronghold of the enemy, affords the most decisive proof of the victory of the Virginians.

Dunmore appointed, to meet the Indians at Camp Charlotte, upon Sippo creek, about eight miles from the Scioto. The negociation is said to have been conducted, on the part of the Indians, by Cornstalk, the hero of Kenhawa.

This chief, at the first council of his tribe, after the bloody battle of Point Pleasant, is said to have called upon his brother chiefs, to declare what was to be done, when the whites were pressing upon them in two bodies? No one was prepared to give an answer to the soul-stirring interrogatory. Cornstalk then proposed that the squaws and papooses† should all be put to death, and then that the warriors should march against the enemy and be killed too. Still no one would join in the appalling debate; then said the energetic chief, striking his tomahawk in the council post: "I will go and make peace."

† The Indian name for women and children.

In the council, which was attended by the governor and the Indian chiefs, the former reproached them with their various infractions of peace and good neighborhood. Cornstalk recriminated with singular spirit and dignity. On this occasion, the eloquent chief is said, by a witness who had listened to the favorite orator of Virginia, and her first governor, the great Henry, to have drawn a lively and afflicting picture of the ancient prosperity and power of his race, contrasted with their present diminished strength and unhappy condition. He expatiated on the cheating of the Indian traders; and to avoid these evils, he proposed that no white man should be allowed to trade with the Indians for his private profit; that his white brethren should send their goods by the hands of honest men, who should sell them at fair prices. Above all, this patriotic and enlightened chief, half a century before our modern temperance reform, implored the governor, that no *fire-water* should be brought among them.

The governor finally arranged the preliminaries of a treaty with the Indians; the purpose of which has been represented by two

* The official account of this battle was written by Isaac Shelby, at the order of his commander, on a drum head; he had entered the battle as a subaltern, and came out a captain. This despatch may be found in Niles' Register, about 1816, communicated by Col. Chas. S. Todd.

writers in the western country of most ample opportunities of original information,* as a truce, and surrender of prisoners with hostages, as a preparatory to a definitive treaty, to be held the next summer, at Fort Pitt. Another writer† says, that peace was made with the Shawnees, on condition, "that the lands *on this side* of the Ohio should be delivered up, and that four hostages should be immediately given for the faithful performance of these conditions." The term, *this side* of the Ohio, could hardly be the language of a treaty made on the northern bank of that river, to describe lands on its southern shore. Nor do any evidences exist that are known to the writer, which determine the exact conditions of such a treaty, beyond a proclamation by Lord Dunmore, of peace with the Indians. In this instrument, dated January, 1775,‡ it is proclaimed, "that the Shawnees, from whose incursions the most dreadful effects were felt, to remove all ground of future quarrel, have agreed not to hunt on this side of the Ohio, and have solemnly promised not to molest any passengers on that river." This is far short of a cession of the southern side as asserted by Burke; though in yielding the right of hunting to the whites, the treaty yielded everything valuable to the Indians.

[To be continued.]

* Doctor Daddridge and Mr. Whithers, both of Virginia.

† Burke's History of Virginia, III, continued by Mr. Giradin to the close of the siege of York.

‡ Virginia Gazette of 1775, in Congressional Library.

The Dead Man's Race.

BY WM. GARDNER BLACKWOOD.

A moral this my tale combines—
A truth from bad example ta'en,
Which, to youth told at ev'ning time,
For like pursuits the eager wish
May antedate, and serve to warn.

THE PILGRIM: A TALE.

Over a wild and trackless moor,
Homeward-bound, an honest boor
Prick'd on his jaded steed;
The Sun was sinking down to rest
On th' bosom of the blushing West,
And o'er the earth dark shadows prest
Along with ghost-like speed.

NOTE.—This Poem appeared originally in the *Southern Literary Messenger*, some years ago, and copied from that journal has had various newspaper publications—in which it has undergone the usual emendations and typographical improvements. [!] In a corrected form the author has permitted its reprint in the JOURNAL & CIVILIAN.—*Ed.*

The bat went flapping round and round,
Dense gnat-clouds, with a murmurous sound,
Hung in the stagnant air;
And in some stunted pine tree hid,
Shrill cried the gauze-wing'd Katy-did,
To answering cricket's chirp, that chid
The silence broken there.

And whip-poor-will, with plaint of woe,
Soared o'er the marsh, whose sedge below
Frogs croak'd in sullen mood;
Whilst might be seen oft here and there
Some lonesome bird, that scanty fare
Found in the wither'd fern and bare
Soil of the solitude.

Apace, veil'd Night, abroad the sky,
Shut e'en these objects from the eye,
In pall that mock'd the sight;
Pale stars, that but a moment shone,
From out the firmament were gone,
And the Queen-Moon shed from her throne
A wan and ghastly light.

The night was chill; scarce thro' the dark
Shimmer'd the fire-fly's fitful spark
Above the grassless plain;
Anon, big drops of rain fell fast,
White vapors rose like genii vast,
And th' fingers of the winnowing blast
Play'd with the steed's loose mane.

On press'd the boor—his craz'd mind fraught
With visions wild, by fancy wrought,
O fiend and spectre grim;
The goblin tales of boyish years,
By Memory whisper'd to his ears,
Roused in his heart its midnight fears
Of some dread fate for him.

He saw cast wide in fitful change,
The mandrake's charnel fires strange—
Jack-o' the-lantern shone;
High on a crazy gibbet hung,
In heavy chains that clanking rung,
To and fro a skeleton swung
With dull and mournful tone.

His fev'rish brain distemper'd grew;
Bright gleams, with cold yet fire-like hue,
Their wizard phantasms spread;

And shapes to his affrighted eye,
From realm of Dream came wand'ring by,
In garbs that rustled horribly,
  Like crisp-leaves o'er the dead.

Some tune half whistled—loud he sung;
His voice in clamorous echoes rung,
  It startled him the more;
He bent him to the howling blast
That told the tempest gathering fast,
And urged the steed, with rein loose clasp'd,
  E'en swifter than before.

A lightning flash!—the sheeny light
Gleam'd thro' the cloud-o'ershadow'd night
  With wildly vivid glare;
Asudden, saw the boor at hand,
With joy, a shelt'ring cottage stand,
And were dispell'd the phantom-band
  With inward mutter'd prayer.

From the wet saddle to the ground
He straightway leap'd with nervous bound,
  And smote the half-closed door:
No voice return'd; he push'd it back;
Revolv'd the hinge with jarring crack,
And a faint starbeam found a track
  Across the gloom spread floor.

He entered there; an owl scared out
The crumbling wall, flapp'd round-about,
  With shrill *Tu-whit*, *Tu-whoo*;
A snake wound up the tottering roof,
A spider left its swinging woof,
And a foul toad, from these aloof,
  Close in a corner drew.

He groped about; just then her light
The Queen-Moon shed forth clear and bright
  Thro' c'oud rift parted wide;
A straggling ray, like spirit tall,
Glided within the cottage wall,
And, beaming, swept Night's curtain-pall
  With luminous arms aside.

Cold shrunk th' roots of his bristling hair,
Blanch'd his swart cheek, grew fix'd his stare—
  His heart-pulse ceased to beat;
With sweaty brow and curdled blood,
In formless horror mute, he stood,

As coffin'd, and in shroud, he view'd
A stark corpse at his feet.

Away!—away! those leaden eyes
Wear murder's seal: in vain he tries
To rend the demon spell;
A fiercer struggle: without heed
He totters where his steps may lead;
The door is gain'd—the frenzied steed,—
Jesu, enshield him well!

Again the dreary heath he scours;
But now, 'neath mantle murk, Air-Pow'rs
About him seem to fly;
With eyeless skulls, before—behind,
Shapes strive his rushing limbs to bind
In fetters forg'd from the weird Wind
That menacing howl'd by.

The tempest in its threaten'd pow'r,
From black, beleag'ring clouds that lour,
Has woke to raging strife;
Broad sheets of lurid flame flash light
O'er the awe-striken face of Night,
And deep-voiced thunders lend their might,
Wild with electric life.

A blinding deluge surges fast,
Till the wide waste, like ocean vast,
Gleams with phosphoric glare;
Each blast-toss'd tree bends low its head
Beneath the Storm's impetuous tread,
And leaves and crackling branches dead,
Whirl thro' the fear-struck air.

His arms about his steed's neck flung,
Closer and closer the farmer clung,
As broke the thunder-peals;
Suddenly, smote his ears a sound
Like his call'd name: he look'd around,
And lo! came rumbling o'er the ground
A coffin set on wheels!

Upon the lid a demon lies,
With forky tongue and lidless eyes,
And tail in arrowy pride;
Blue lambent fires blaze on its brow,
Around it spreads a sulphurous glow,
And it nods like hearse-plume to and fro,
Some unseen Pow'r to guide.

Right onward sped the steed's wild race,
Right onward held the spectral chase,
  Over the gleaming waste;
Thro' red-seeth'd pools, with plashing sound,
The snorting courser's wing'd hoofs bound,
And they clatter o'er the turfy ground
  In hot and headlong haste.

Fled heav'n above, fled earth below,
Flash'd the white foam as on they go
  With whizzing sounds and din;
Like ghosts unhallow'd from the tomb,
Frore mists glide rustling thro' the gloom,
Chill winding-sheets for those whose doom
  No earthly goal may win.

The farmer wax'd still deadlier pale,
The laboring courser's strength gan fail,
  The Death-Fiend near'd his side;
It twitch'd his loosely flying rein,
Clutch'd at his steed's erected mane,
And struggled fiercely, nor in vain,
  To stay the ghastly ride.

A loud shriek from his pent up breast
Frighted the night-bird to her nest,—
  He fell upon the ground;
On the cold sod he senseless lay
Thro' that dread night: the coming day,
His helpless form was borne away,
  By friendly rustics found.

A burning fever on his brain,
  And reason's voice forever seal'd—
In fleeting intervals of pain,
  The farmer this strange tale reveal'd.
Some said, he at a neighb'ring Fair
  The eve of that dire night was seen;
That pledging gay companions there
  In madd'ning bowls he late had been;
And that the *Spirit*-Fiend had wrought
The scenes with which his mind was fraught.
But even supposing that such was the case,
There were many believ'd in the Dead Man's Race.

SOUTHERN QUARTERLY REVIEW.

The October issue of this journal is before us. We have not space to notice its varied and valuable contents. The articles are of the usual ability and interest. There is no publication in the country which so favorably compares with the most popular of the transatlantic Reviews. Indeed, in the care and erudite research always evident in the preparation of its different contributions, the Southern Quarterly stands perhaps alone in conspicuous merit. South Carolina is preeminent in literary enterprise as in political distinction. The truth is—her prominent statesmen, jurists and scholars, are the exponents and ornaments of her literature. Elegant letters and public affairs divide equally the habits and occupations of her people. She was early a leader in the emulous promotion of literary progress. It was, if memory serves us, in 1827 that the "Southern Review," of which the Southern Quarterly is the worthy successor, was started in that State, under auspices soon giving it a reputation more brilliant than any like publication ever attained in this country. The masterly contributions of Legare—the recondite learning of Cooper—the philosophic disquisitions of Elliott, the elder—the antiquarian researches in literature and history of Nott—the elegant scholarship of Henry—and a score of others hardly less celebrated for splendid talents and all varied mental accomplishments, adorned and dignified its prolific pages. A *politico*-literary journal, however, with changes in the particular circumstances of the times in which it had origin, and the passing from the stage of public life of some of the distinguished actors, whose especial organ it was chiefly designed to be, it became for awhile extinct. But its revival in the present publication quickly followed, and with a support in the energy and ability of its conduct, establishing it in all its former popularity, and, as a purely literary work, upon a much surer and firmer basis. Its present prospects are still brighter than heretofore, and the whole South is now interested in its maintenance and general circulation. The array of its contributors embraces the best talent of the southern country. The names of Hammond, Thornwall, Holmes, Grayson, Bryan, Prescott, Miles, Simms, besides numerous others, are of classic celebrity in our national literature, and are the best guarantee of the character and value of the work. We commend it cordially to our readers in the West, and particularly to our fellow-citizens in Missouri. In the growing intercourse between the States west and those of the southern atlantic section, and the channels of future intimate connection that are daily opening, it is important to establish means for the commerce of ideas, and the intercommunication of views and opinions necessary to regulate and harmonize their mutual relations. Literary establishments must keep pace with commercial enterprise. While the one builds up internal prosperity, the other will foster social fellowship, and mould harmonious political sentiment and opinion.

THE

WESTERN JOURNAL

and Civilian.

VOL. XI. December, 1853. No. III.

ARTICLE I.

Social and Commercial Aspects.

THE social and moral developments of the nineteenth century suggest a variety of topics worthy of investigation. Full of instruction if observed in a philosophic light, they commend themselves to the observation and study of all men who desire to comprehend the true character of the times in which they live.

The social economy of the more enlightened nations is in a state of transition, and if we desire to avoid the evils and avail ourselves of the benefits which may result from the changes going on, we should observe the phenomena as they occur, and, if practicable, learn to interpret their meaning.

From a momentary view of the social aspects, it will be perceived that freedom of thought, self-confidence, and less veneration than in former times for long established institutions and doctrines, are distinguishing traits in the character of the present generation.

And though it may be doubted by some, whether these features of the times betoken good or evil, it must be admitted that they are the necessary precursers of a more enlightened and higher state of civilization. The consequences of these developments will doubtless be modified by the social condition and peculiar temperament of individuals and nations.

In Europe, freedom of thought and the moral courage which it imparts, prepare the minds of men for political revolutions, but revolutions being full of peril, and not always practicable, men choose expatriation rather than submission to unjust institutions. Hence, we perceive the source of the mighty tide of emigration flowing from Europe to the shores of our own continent. This must be regarded as the most remarkable, and in many respects

the most important social movement of the age. Several years elapsed after the commencement of this movement before its effects could be correctly observed or appreciated, but its agency in developing the resources of the country, and in expanding our commerce, is becoming daily more apparent.

Without the labor of these emigrants, it would be utterly impracticable to carry out our immense systems of public improvement in a reasonable time; for the number of operatives required for this purpose, if taken from agriculture, would raise the prices of labor and provisions to rates that would bring embarrassment to every department of industry, and put an end to the construction of railroads. But with a continual supply of labor from other countries, the Western States, by the exercise of a reasonable degree of prudence, will be able to prosecute their public works with sufficient expedition, and escape the revulsions which have been occasioned by enterprises of like nature in other countries. And, in the meantime, agriculture instead of being impeded, will expand its operations, and find a better market for all its products.

But in addition to all this, the demand for iron created by the construction of railroads, and the scarcity of mining operatives in Great Britain occasioned by emigration, have given an impetus to its production in this country, that will enable us before the expiration of many years to control the iron trade at home and probably throughout the world.

Nor should we overlook the handycraftsman, whose wares we have been consuming, and to whom in return we have been sending bread and provisions across the Atlantic.

By transferring his art and implements of trade to this country he saves to producers and consumers the cost of exchanging commodities at a distance of several thousand miles, aids in building up cities and a home market for our agricultural products, and lessens our dependence on the industry of other nations.

But there is still a broader view of this subject: the railroad from the Mississippi to the Pacific must be built chiefly by the labor of emigrants; and we may add, that without their aid it is scarcely probable that this enterprise could be carried on successfully during the existence of the present generation.

It is a curious and interesting fact that the people of Europe should voluntarily become the instruments of developing the resources of this country; that they should contribute in so great a

degree to the construction of railroads calculated to unite the people and strengthen the bonds of union between the States; open our mines; build up manufactures, and extend our commerce westward to the shores of the Pacific, and thence to Asia. No friend, no enthusiastic lover of this country and its institutions, could have devised a scheme better calculated to advance the grandeur of the nation, and establish upon a broad and permanent basis its political and commercial supremacy.

While Great Britain is extending her commerce east by military power and civil oppression, individuals, born her subjects, are assisting to raise up a rival in the west destined to meet her upon the opposite side of the globe, and by the arts of peace win the laurels for which she has been fighting for more than a century. Truly, the ways of Providence are wonderful, and the councils of rulers folly. The policy of certain governments in Europe designed to perpetuate unjust institutions, is operating with signal effect in developing the physical resources and moral power of the United States.

When the laboring classes of Europe contrast their condition with that of the people of this country, and perceive no ground to hope for improvement, their veneration for the land of their birth and for the institutions which oppress them, is weakened; a sense of individuality is awakened, and feelings of manhood aroused, which urge them to seek a home in other lands where the rights of men are equal, and the pursuit of happiness is open to all. Many years may elapse before the consequences of this movement are fully developed, but in addition to those already noticed there are others not less interesting which may be regarded as almost certain. In a social point of view, we conclude that the condition of the masses in Europe—the people as distinguished from the rulers and privileged orders—will be greatly improved by the operation of the causes enumerated.

For it may be regarded as an axiom that, when an enlightened people possess sufficient independence of mind to judge of the institutions under which they live by the effects produced upon the happiness of the community, the government, whatever be its nature, must conform to their wants and opinions.

The nature of the social consequences in this country admit of more doubt than in Europe. The danger here is in the excess of the progressive element, and this excess is annually augmented by

imigration ; for individuals of mature years, in whose nature the conservative principle predominates, rarely abandon the soil of their birth, and the institutions under which they have been reared, to seek their fortunes in strange lands. Hence we observe that the immigrants to this country generally affiliate with the progressive party. This is a fact which should be borne in mind by the statesman and by the people in general, and cause them to be more circumspect in the adoption of new measures. For though the progressive element be necessary to give energy to a people, and to prevent the government and wealth of a country from falling into a few hands, yet, when this element is found to exist in excess, it leads to aggressions upon the rights of other nations, and to speculations in property, politics and religion.

The traits which we have noticed as characterizing the times, are prominent in the aspects of morals and religion. But it is to be deprecated that freedom of thought, one of the highest privileges of man, indicates a strong tendency to licentiousness; that self-confidence is leading to fanaticism ; and that, owing to the want of veneration for the teachings of christianity, religious absurdities at war with the common sense, and even with the common decencies of a civilized people, are propagated with zeal, and adopted with avidity.

We respectfully commend these phenomena to the observation and study of those who have assumed the responsible office of teachers of the sublime truths of christianity. Let these things incite them to greater diligence in their vocation. It may be, the fault is theirs. They may have insisted too much upon a belief in dogmas inconsistent with the lights of the age. They may have neglected to fortify and inforce sacred truths by evidence drawn from the economy of the physical and moral nature of man, and from his relations to the universe. Have they not clothed religion with a mantle of gloom, and taught that she demands sacrifices in conflict with individual interests and social enjoyments? Have they labored to reconcile philosophy and religion, and to show that, so far from being twain, the truths of the one are those of the other, and that their united lights and combined influence are necessary to elevate the individual and social condition of man to that happy state designed to be established by the christian dispensation?

Never has there been a time so favorable for extending the area of christianity as now. We are entering upon a full tide of com-

merce with the Isles and with the great Orient of the ancients; a commerce which in volume will surpass that carried on by the merchant princes of Tyre, as far as the volume of the Mississippi surpasses that of the Euphrates. By this means the Caucassian and Mongolian races, the christian and the pagan, will be brought into social contact. And hence the privilege and duty of christianizing Asia is about to devolve upon the American people.

In view of these facts, may we not conclude that we are entering upon a great crisis in the history of civilization, an era when the old system having performed its office, and exhausted its powers, is about to give place to a new order?

In this glance at the social aspects of the times, while we find evils to deprecate, we still discover what are conceived to be good grounds for the conclusion that the great elements of civilization are still in the ascendant.

The principles of civil liberty are gaining strength; the exhibitions of licentiousness which occur, seeming at times to endanger the purity and permanency of our institutions, like succulent shoots, are evidences of the richness of soil and vigorous condition of the plant from which they spring. In communities where a majority of the people are prosperous, conservative principles must prevail. Wealth is a conservative element under all forms of government, and even the restless and unprincipled innovator, if successful in his schemes, settles down into a state of the most obstinate conservatism. Public improvements calculated to improve the means of social intercourse, and facilitate the exchange of commodities, are also to be classed with the conservative elements of nations. A sense of national grandeur, though it may lessen respect for the people of other countries, is nevertheless a potent element in sustaining the institutions of the country to which men belong.

If we bear these principles in mind while taking a view of the vast resources of this country, the facilities which it affords for the acquisition of wealth, the spirit and the means of public improvement which we possess, and the rapid strides which we are making towards national greatness, we shall find little cause to distrust the permanency of our institutions, until we shall have reached, and perhaps surpassed, the grandeur of every other nation whether ancient or modern.

But the elements enumerated are to be regarded as accidental, arising from the physical condition of the country and from the peculiar characteristics of the race to which we belong. They are but the gross materials constituting the framework of our institutions, liable to change and decay, unless preserved by principles imperishable in their nature. To make our institutions perpetual, moral improvement must keep pace with the progress of physical science, with the acquisition of wealth, with the expansion of commerce, with the enlargement of territory, with increase of population.

This is the point which must finally determine our destiny as a people. The inherent energies of our race will develop our physical resources, and extend the area of our institutions. But it requires enlightened, energetic and unceasing exertions on the part of the statesman, philosopher and divine, to develop the moral elements which are essential to sustain a perpetual state of progress.

The statesman must look to the means necessary to ensure the education of the destitute, that to the equal rights to which men are entitled by birth there may be added equal opportunities of comprehending the duties which each individual is bound to observe and perform as a member of the community. Else how can he enact laws to punish the delinquences of those who may fall into crime by reason of their ignorance without violating the eternal principles of natural justice?

The philosopher must study the individual man, investigate his social and moral natures, and, observing their phenomena, deduce thence his duties and the true objects for which he was created.

In the exercise of his functions, the teacher of religion should continually bear in mind, that christianity is a social institution, designed by its founder to bind the whole human family together by social love instead of human laws, and that future rewards depend chiefly upon the performance of social duties under the influence of this sublime principle.

Should our readers object to the introduction of these grave topics in a work relating chiefly to the industrial pursuits and business affairs of men, we beg to remind them that happiness is the end proposed to be attained by each and every pursuit adopted by man. But if, while engaged in their respective vocations, they neglect to observe the social aspects, and allow political errors and social vices to grow up and gain strength, they will fail in the at-

tainment of the chief object for which all men labor. An enlightened community possessing sound morals, and a free government wisely administered, are necessary elements of individual prosperity. They encourage habits of industry by making its rewards more certain, and enhance the value of those rewards by combining social with physical enjoyments. They make sure to the laborer the fruits of his toil, and protect his accumulations for the benefit of his offspring, and hence ethics and the science of government are to be regarded as legitimate branches of political economy.

ARTICLE II.

A New Plan of Constructing Railroads.

No suggestion touching improvements in traveling which have come under our observation has afforded us more pleasure than those contained in the following article. We know that one not a machinist or an engineer is liable to be deceived in such matters; but the plan proposed by the writer for constructing railroad tracks and machinery with a view to the greater capacity of both, seems so plain that we scarcely feel a doubt of its success in all respects, except in the point of reasonable safety, at a speed of one hundred miles per hour. Indeed so high a rate of speed can hardly be desirable. If with the improvements proposed a speed of fifty miles an hour can be attained and kept up with safety through the whole line from the Mississippi to the Pacific, we think the most ardent progressive in the land ought to be content.

At the first view, the additional cost may seem to be an objection, but this will not prevent the adoption of the plan upon all great lines of travel in case the author's views should be realized.

We trust, Mr. Robinson will be able, in some way, to make a satisfactory test of his invention, before the railroad to the Pacific is commenced; and if such a test can not be made by individual means, we would suggest that Congress be applied to for an appropriation for that object.—*Sr. Ed.*

LOUISVILLE, November 23, 1853.

MY DEAR SIR: In my last, I promised you an explanation of the plan I had previously suggested to you for improving the speed, safety, and comfort of railroad traveling. Knowing the interest

you feel, as a public spirited man, in all legitimate works of public improvement, and particularly in the great project of a railroad to the Pacific ocean, and feeling confident of your ready appreciation of any plan for the construction of that road which will combine desiderata absolutely necessary to its prompt and speedy completion, as well as to its safe and successful operation when completed, I have the more readily promised this, as I consider the plan peculiarly fitted for this road, and upon a scale fully commensurate with its importance. The want of the desiderata referred to, although felt upon all of our long main lines, must be more seriously felt upon that than any other, precisely in proportion to its length and the primitive state of the country through which it must pass. The conditions, which every practical railroad man must concede as necessary to enable this road to triumph, *in our generation*, over all the difficulties in the way of its construction, and regular, systematic, and successful operation, are: 1st. Great, increased speed, with at least the same safety as at the present rates. 2d. Greatly increased safety. 3d. Increased capacity, with accommodations and comforts for travelers far beyond any that can possibly be obtained on our present roads. And all these conditions must be obtained with a durable and substantial road bed upon "terra firma." By the method I have suggested, the very elements, out of which ony one condition is complied with, are the elements out of which all others are fulfilled, and there can be no question as to obtaining the following results, viz: The easy attainment of a speed of one hundred miles per hour, increased safety, even almost to the extent of absolute immunity from derailment, by reason of unseen imperfections in the track, and from the breaking of axles, increased accommodations and conveniences, even to the extent of sleeping rooms, eating rooms, sitting rooms, and all the comforts which may be had upon our steamers. This, at first, may seem rather a startling proposition, but is it half as startling as was deemed the first proposition of running a locomotive engine at a speed of ten miles an hour? It will be remembered that a noble English gentleman agreed to *eat* the first engine which should ever accomplish this speed. With all that has been accomplished since that time, I am yet unable to sit quietly down in the conclusion that perfection has been attained in the manner of constructing railroads and railroad machinery, but I have faith to believe that as many and as great improvements are yet to be made as have been made since the "Rocket" made her first memorable trip.

Both theoretically and practically, the obstacles which prevent a speed of one hundred miles per hour upon our present roads are sufficiently obvious. It is an indisputable fact that, in order to increase the speed of locomotive engines, increased diameter of driving wheel is necessary, and then increased boiler or evaporating surface is necessary to create power for these large wheels.

Granting that this increased power could be obtained to the extent required for a speed of one hundred miles per hour, it is manifest that, with driving wheels of the proper size, say ten to twelve feet in diameter, engines upon the ordinary general plan of construction would be so high, in proportion to their base, that the speed would be unsafe. The speed would be unattainable for the reason that the engine could not be kept upon the track. Absolute perfection in a railway track is not to be attained, or, if it was, it could not be maintained. The crushing of the timber under the rails, the giving away and settling of the joints, the settling of the earthwork, the crushing and wearing of the rails; all these are contingencies not to be avoided, and occurring more or less, as the materials are better or worse out of which the road-bed and tracks are constructed. With our best railways thoroughly ballasted, with the cleanest gravel and the best materials throughout, these difficulties occur in every rod, and a speed of one hundred miles per hour would not be safe, even if the requisite wheels and power could be obtained. But the power cannot be obtained to the required extent for any *useful service* upon the ordinary gauge of road.

These difficulties would naturally bring us to the conclusion that a wider gauge is necessary. Increased width would of course give more space for boiler, would admit larger wheels without raising the center of gravity, and would thus permit increased speed with safety. That is to say, the inequalities and imperfections of the track remaining the same, a higher rate of speed would be allowable and attainable upon a wide than upon a narrow gauge. This theory, however, only applies, in its fullest extent, upon a straight line of road. An increase of gauge brings up other difficulties; viz: increased friction upon curves, increased tortion of axles, increased wear and tear of road by reason of the necessarily increased weight of engines, &c.; and all these without attaining advantages of speed, safety, capacity, and convenience to the extent required. I consider any material increase of gauge, therefore, inadmissible, although I consider an increase of base an absolute condition in obtaining these advantages.

To establish the assertion I have made with regard to the limit of speed of engines with limited drivers, I beg to state the results of experiments made in England within a year or two past, with an engine constructed upon the most approved proportions, having drivers seven feet in diameter. I have not the published statement at hand, but the experiments were first upon a cold inclement day, a wet rail, with an unfavorable wind, and under circumstances entirely at variance with the necessary conditions for making high speed. The result was seventy-one miles per hour, the engine having a surplus of steam and "blowing off" all the time. A few days subsequent to this it was again taken out, under what were considered the most favorable circumstances, fair weather, dry

rail, and no wind. The result was precisely the same, a speed of seventy-one miles per hour, and with no apparent difference in the amount of surplus steam. The conclusion is irresistible: The speed of the engine was not limited by outside conditions of track or weather, but depended entirely upon something inherent in the engine itself—the absolute incapacity of the pistons and connections to move any faster—the inability of the steam to enter the cylinders and exhaust with any greater rapidity. It follows therefore that had the engine been constructed with larger driving-wheels, it would have had capacity for a higher rate of speed, for there was no difficulty experienced in generating steam. But it is questionable whether with the increased drivers and the consequently increased height of boiler, it would have been compatible with safety to have driven it even at so great a speed as seventy-one miles per hour. It may not, therefore, be impossible to manufacture an engine, *simply as an experiment*, which could be driven at a speed of *perhaps* one hundred miles per hour, provided the *condition* of the *track* did not present insurmountable difficulties—These I have before referred to. To a certain extent they are unavoidable, and the motion, both vertical and lateral, thereby created will always present an insuperable obstacle to any great increase of speed upon the ordinary gauges, even if *power* for *useful purposes* could be obtained. The most perfect track if examined critically will show a succession of vertical curves by settling at the joints, even if depressions are found at no other points. These low points, if equally depressed, when opposite, create a vertical motion only, and when laid alternate or not opposite, create a lateral or vibratory motion still more inconsistent with high speed. It is found that in consequence of the loose nature of the material near the sides of the road bed the harder and more compact material in the center becomes a fulcrum upon which the track vibrates, and where a depression is found in one rail, a corresponding elevation is very generally found in the *opposite* one. This is more particularly the case where the joints of the rails are laid alternately. There is, then, at the centre a *neutral point* where there is no disturbance. Could a load be sustained at this point, it is evident that no motion under such conditions would be communicated to it, or, taking the worst feature, viz: a settling of one rail without the corresponding elevation in the other, and it is evident that but one *half* as much disturbance occurs at the *centre* as at the depressed rail. Under the present mode of construction, the car-bodies and their loads are sustained at points nearly over each rail, and, as a necessary result, a disturbance of the level of the track causes a disturbance of the level of the car and its load. The higher and wider these are, the greater and more dangerous is the motion.

Now, if a car-body be sustained by a single point only at the centre of each of the trucks under it, and this car-body be of suf-

ficient width to extend cut on one side projecting beyond the rails far enough to be sustained by another truck having another bearing at its center only, either of these trucks might be disturbed in its level by a depression in one rail and a corresponding elevation in the other, without in the least disturbing the level of the car-body. It is precisely upon this principle that I have designed a road. I propose to lay four parallel rails of the ordinary pattern and weight, forming two distinct tracks, each of a gauge of two and a half to three feet, and having an intermediate space of five to six feet. These tracks I propose to lay upon distinct and separate sleepers, having a trench or ditch between them, but to connect them by ties of iron or other suitable material so as to preserve a uniform gauge in the intermediate space. I propose to construct narrow trucks for each track and rest each car-body upon four trucks sustained by a single bearing only at the center of each. It is perfectly evident that the car-body and its load would have no vibratory motion communicated to it by the inequalities incidental to each independent track, and that its level could not be seriously disturbed, unless one track should be absolutely lower than the other. Against this latter contingency we have a base of twelve feet for a car no higher than is now used upon a base of less than five feet. By an arrangement of this kind, the friction upon curves is greatly reduced (for we have only a gauge of two and a half or three feet,) the vibration and tortion of the axles is lessened, while, at the same time, the capacity of the axles to resist all strains is immensely increased, and yet we have the indispensable condition required for high speed, a wide base. Thus are combined all the advantages ever claimed for a wide gauge with all the advantages that can possibly be claimed for the narrow gauge, and yet all the disadvantages ever urged by the respective champions of either, as belonging to the other, are entirely avoided.

I propose also a peculiar system of laying these four rails, and that is with the joints of the outside ones opposite each other, but alternated with the joints of the inner rails, which shall also be opposite each other. It will be perceived that by this system each independent track is laid with alternate joints, but always occupying the same relative position with the joints of the opposite track. The inevitable depression of the joint causing a corresponding elevation of the opposite rail at its center, the middle of each track or the half way point between the two rails is a neutral point where there is no motion, and the inequalities of each track are such that the opposite trucks are either inclined toward each other or from each other at precisely the same moment, thus counteracting each other and avoiding both the vertical and lateral movement of the car-body caused upon an ordinary road by either opposite or alternate joints.

There would be, of course, a tendency of these centre bearings

upon which the car-body rests to approach each other or recede from each other as the inclinations of the tracks should be inwards or outwards The simple apparatus used in all well-constructed car trucks provides fully for this tendency, permitting the truck to move a short distance laterally or to incline without moving the center bearing at all. Upon curves where it is now found necessary to incline the cars by raising the outer rail, so much as oftentimes to create alarm among the passengers, the level of the car-body may be perfectly preserved and the object fully gained by inclining each distinct track, but keeping the center always upon a level. I propose to connect opposite trucks in such a manner that one shall act as a guide for its mate. The most dangerous causes of derailment are not great obstacles extending across the track, because such obstacles, whether placed by design or accident, are to be guarded against by a suitable police, but by far the most serious danger is from unseen defects in the track itself, or, rather, in a single rail of the track, such defects as would not be apparent to the casual and careless glance of the repairer, or as could not readily be seen by the guard or engine driver of a train. A broken chair allowing the ends of the rails to slip by each other, a short and sudden crook in the rail, a worn rail with a short depression crushed in its surface, the breaking of a rail, the sudden settling of a joint under a passing load, all these are causes of derailment at high speed, and are causes, too, from which the most serious accidents may occur, because not being readily perceived, they are met with while running with entire confidence. The connection I propose would prevent any truck, meeting with such obstacles, from turning upon its center so as to leave the line of the rails without the opposite truck to which it is attached should turn also, and the probability of conditions of this kind sufficient to cause derailment, occurring upon both tracks at precisely opposite points, is so remote a contingency that I think I am warranted in claiming that the plan involves almost absolute safety.

As a general thing, the ends of the rails, it is well known, are the points where they first fail, and this simply because they are generally the lowest points. An unavoidable effect, from the manner of constructing our present roads, is, that when a wheel sinks into the depression caused by a yielding joint, the car-body receives a "cant" in that direction and the impingement upon the rail increased by the whole impetus of the load. If we keep the load still and resting upon a single point precisely in the center of each truck, it is manifest that, no matter how much the truck may be twisted or distorted out of level by the inequalities of the track, the weight is distributed alike upon all the wheels, and the joint or depression is not subjected to any greater impingement than any other part of the rail. Both rails and machinery are thus relieved, and an immense saving is made in the *most important*

item of cost in operating railways, even at a far higher than ordinary rate of speed.

It is found practicable upon all our roads to run cars constructed with a width about double that of the gauge. Taking this as a proper proportion, I consider it safe to construct cars of twenty feet width for a base of twelve feet, particularly as it is not necessary to increase the height materially. Carrying out the proportions in full, if we double the width of track, we may not only double the width of car but may also double the height, the center of gravity remaining in the same relative position. But as the height is not increased seriously, with the increased base the center of gravity is much lower than in cars of ordinary construction.— This, independent of any other consideration, would permit increased speed.

The cars may be of any length within the limit of required strength, but say, for example, sixty feet. You can readily imagine what convenience and accommodations may be provided upon cars of these dimensions, and it is perhaps unnecessary for me to make any suggestions. Sixty passengers may have comfortable sleeping accommodations in a night-car of this size, not upon shelves hung around the sides of the car but in state-rooms. More than that number could sleep in a car if arranged with berths upon the sides and with the portable apparatus used in our steamboat cabins for the center. Other cars may be finished for cooking and eating rooms. Cars for day trains may be divided into saloons and sitting rooms, with sofas, tables, &c., or may be provided with uniformly arranged seats as in our present cars. All the accommodations that can possibly be required by travelers can be had to such an extent as to render it unnecessary for them to alight between the Atlantic and Pacific. Am I not warranted, therefore, in saying that the proposed method of constructing railways and railway machinery will give ease of motion to the car; will lessen the wear and tear of both road and machinery; will largely increase the comforts and accommodations of travel; will immensely increase the capacity of the road for any kind of traffic; and will permit a speed of one hundred miles per hour with increased safety. It remains to be seen whether the proper arrangement of machinery can be had and the power generated to accomplish this speed.

I propose to construct a double locomotive, using the center space between the tracks exclusively for the boiler. There would be two distinct sets of driving wheels opposite each other — two cylinders on each side, with all the requisite machinery and trucks, forming substantially two distinct locomotive engines constructed for a gauge of two and a half to three feet, with a large and capacious boiler between them, the two sides acting entirely independent of each other, and having no connection whatever, except that they would be attached to the same boiler. The axles of the

driving wheels not extending across the space occupied by the boiler, it matters not how large the drivers are — the boiler remains in the same position, placed as near the surface of the road bed as the fire-box will permit. Immense power for propelling the large drivers is obtained by the four cylinders, and in order to supply steam, we have room for inserting a boiler of five feet in diameter if required. The fire-box, being directly in the rear of the driving wheels, may be enlarged, even to the full width of the track, and, if necessary, small auxiliary boilers may be placed between the driving wheels on each side of the main boiler. Thus are obtained all the conditions for speed—large drivers, powerful machinery, and unlimited capacity for generating steam, and, at the same time, the center of gravity is kept near the surface of the track, and the height of the engine not at all dependant upon the size of the drivers. The same principle of sustaining the load at points precisely in the centre of the tracks, as arranged in the case of the cars, may be retained in the construction of the locomotive, and the leading and trailing wheels may be connected, as a means of safety, in the same manner. The weight of engine, and also the weight of cars, is increased beyond those now in use, but the number of rails for sustaining them is proportionally increased. And this is a peculiar feature of the invention to which I wish to call your attention. In enumerating the disadvantages attendant upon an increase of gauge, I have mentioned the increased wear and tear of rails by reason of the increased weight of machinery. It might be asked—why not as well make the rails heavier? why not have two rails weighing each one hundred and twenty pounds per yard? The answer to this is—that all experience proves the durability of a rail, or its capacity to resist the action of heavy loads, not to depend so much upon the weight per linear foot, after reaching a certain limit, as upon the tenacity or adhesiveness of the particles of the iron—the rail itself may not break or bend, and yet its surface crushes and laminates under the action of heavy locomotives so as to be unfit for use, and still nearly all of the original iron is left. Nothing is added to the capacity of the iron to resist this crushing or lamination of the surface by making it heavier or stiffer. Manifestly the proper way and the only sure way to preserve the rails while increasing the weight and power of the engines is not to increase the size of the rails but to increase the number of wheels or the number of rails.

The center space between the two tracks is available for way trains running short distances made up of ordinary engines and cars—or it may be used for the repair and gravel trains of the road. For these latter the arrangement is peculiarly apt, for the ballasting may be deposited in each track where it is needed instead of being wasted upon the slopes of the embankments or in the ditches of the cuttings. At stations in large and important

towns, turnouts and branches from the narrow tracks may be constructed upon which cars propelled by horses may be used, connecting the trucking operations in these towns directly with the larger cars at any point upon the tracks. I suggest these minor matters as conveniences following directly in the wake of the construction of a road of this character. I have submitted this plan to some of the most eminent theoretical and practical railroad men in the country, both East and West, and with the exception of one single objection, it has been universally approved. It has been unhesitatingly conceded that every result I claim for it can be attained. The objection made by a few individuals is its increased cost. Let me reply to this objection with a few practical statements and I have done. The cars I propose to build are about twice the size of our present cars. If provided with the same kind of seats and no better or more luxurious accommodations they will certainly contain twice as many passengers. Having twice the number of rails and bearing points under them, we may load them twice as heavily, and may we not as cheaply construct the one car, carrying one hundred and fifty passengers, as the two cars carrying seventy-five each? If we reflect a moment, we must decide that the same capacity would be obtained for a less cost in the large cars than in the small ones. The increase is principally in the width—the same sides and the same windows that are required for the small car answer for the large one. So is it with the freight cars; if twice the size and costing twice as much per car, it is sufficient to assert that they carry twice the load. Suppose the engines each to cost twice as much as the ordinary engines, they also have twice the capacity.

For an equal amount of traffic then, the equipment cannot possibly cost any more upon this than upon any road. There would be the extra cost of two rails, with the chairs and spikes and the labor of laying them. Estimating them at 100 tons per mile at present rates, and this additional track might cost $8,500 per mile. The additional width of road bed would be about $5.000 per mile upon an average road, making a total extra cost of $13,-500 per mile only, while quadrupling its capacity. I cannot consider this objection as being worthy of any serious consideration; for once demonstrate that by this plan the results I claim can be obtained, and that the Mississippi river and the Pacific ocean can be brought within eighteen hours of each other, and I say the magnificence of such an accomplishment will warrant almost any expenditure. Those who admit the feasibility of the whole thing, and yet object on the ground of this comparatively trivial increase of cost, might, with equal propriety, object to the construction of our present railways because they cost more than turnpikes. The particular applicability of this plan to the Pacific road needs but little comment. Aside from any considerations connected with the operation of the road when completed, there is one consideration,

connected with its construction, arguing incontrovertibly in its favor, viz: That the time in which the work can be constructed is not limited by any difficulties in the grading of the road bed and its preparation for the rails, but simply by the laying of the track. The materials for this must be transported from its termini, and the contingencies attendant upon this transportation over any new road with incomplete and imperfect regulations, without frequent or convenient stations, without assistance in case of accident, except at long intervals, always delay and embarrass this work. I know from practical experience, that, with proper supplies of materials, one mile of track per day may be laid down quite as easily as one quarter of a mile, for this depends only upon the number of men employed, but I also know that, as an average, not more than one quarter of a mile per day is laid upon any road of fifty miles in length where the materials are transported over the road, and this entirely in consequence of the delays and contingencies connected with this transportation. If this be the case upon a road of fifty miles in length, how must these difficulties multiply upon a road five hundred or one thousand miles in length. Is it not therefore an unanswerable argument, granting all that is claimed for this plan, that the facilities of all kinds for transporting men, supplies, and materials being increased four-fold, the speed and certainty of transportation and delivery being increased in the same proportion, can it, I say, be denied that the work can be accomplished in one quarter the time that would be required if constructed upon the ordinary plan. There can be no doubt that the saving consequent upon this increased speed and certainty of delivery will counterbalance the increased cost of the road.

In common with, I believe, every "Young American," I have the strongest desire to see this road commenced, but I also desire to see it commenced upon a plan which will not be a thing of bygone days, before it is half done. No one great improvement in locomotion has been made since the first introduction of railways. That was a great step. All the rest has been by slow degrees and small improvements in the details. I believe the time has arrived when another great step must be soon made. Certainly, if to be made within the next quarter of a century, it would be well that it should be made before the Pacific road is built.

Such, in as brief a manner as I could well explain it, and with as few comments as the interesting nature of the subject would allow me to use, is the character of the plan I suggest. I have prepared models of both locomotive and cars, which are in Portland, and at your service, as is also this rather lengthy communication from your most obedient servant,

A. P. ROBINSON,
Chief Engineer Louisville & Covington R. R.

JOHN M. WOOD, Esq., Portland, Me.

Article III.

Address of Uriel Wright before the First Agricultural Fair in Missouri.

Continued from p. 30.

I pass to the second proposition—Is it the *duty* of the *State* to place a thorough agricultural education within the reach of her youth? and if so, how? I assume that she has not yet done it. I assume that within her boundaries, all is not known that ought to be and can be known by proper appliances, to elevate the condition of agriculture—that the State has not furnished the means of acquiring this knowledge—and my purpose is to show, if I can, that she is under an *obligation* to make this knowledge accessible.

On Monday, the 12th day of June, 1820, the people of Missouri in convention assembled, at St. Louis, established a "free and independent Republic" and ordained a written constitution.

For the period of little more than one year, the Republic, thus formed, was in a peculiar sense "free and independent"—for while its people had passed out of their Territorial form, the Republic they formed, was *out* of the Union. But I am not dealing with this peculiarity in her history. The Republic established was "free and independent." Its foundation was laid in the capacity of its people for self-government; and *knowledge*, by the character of the structure, became its necessary support. Knowledge diffused, knowledge in *the people*, who were recognized as the only source of power in the State, so that by the act which gave the form of government, *a duty was created and imposed upon the government* to instruct, to inform and enlighten the understanding, to instill into the mind principles of arts, sciences and morals.

That is education, and the implication carries it to the mind which holds the sacred deposit of power; and that is the popular mind. If the constitution ordained by the people had been silent, the form of government created a duty to *educate*, of perfect obligation, but the constitution is not silent; it speaks; it is not content to rely in this behalf upon even a *necessary* implication, but it puts down what is implied in apt and emphatic words. It gives to education a separate article, and the first words of the first section are:

"Schools and the means of education shall forever be encouraged in this State."

There is the duty which devolves upon the State, and its double origin, both sacred. There is the duty which rests upon her now, and will remain upon her so long as she remains a *free* State. Beyond that hour, I take no interest in her progress.

Education is to be encouraged in this State, not for a time only, but for all time. The men who framed this article had clear ideas. They looked to the past and to the future—they knew that liberty was a hard thing to get, and a still harder thing to keep, and they connected means with the end. They were not content to start with liberty and end with something else. The horizon of Freedom was not bounded to their vision. They looked to no future that was not free. By a clear logic they saw that if liberty was dependent upon knowledge for a single day, it must be dependent on it forever, and therefore rejecting all temporary expedients, they declare the union of liberty and knowledge perpetual.

The organic law of Congress creating the Territory, eight years before, had said: "As religion, morality and *knowledge are necessary* to good government and the happiness of man, schools and the means of education shall be encouraged;" —but the framers of our Constitution reject the preamble, and change the phrase by adding a word of perpetuity. They reject the preamble, not to weaken, but to strengthen the law. They cut off all argument—they silenced all debate about the value or object of education, for they knew that the legal effect of a preamble oftimes narrows the law. They put education now and forever upon the footing of a duty absolute, requiring no argument for its enforcement. They left it as the plain duty of a free State, arising out of her freedom and inseparable from it.

This connection between liberty and knowledge is a legacy of the Revolution. No men who have ever lived on earth, saw or felt the force of this idea as did the men of the Revolution—or so struggled to make it a living idea. In many ways they impressed it. It is to be seen in all their inculcations—but I cannot forbear to remind you of the mode in which one of the great actors of that age sought to transmit the thought to succeeding ages. He was not content that it should be seen in his life, it must speak from his grave—and therefore, penning the epitaph which survives him, THOMAS JEFFERSON wrote these words:

"*Author of the Declaration of American Independence*
and
FOUNDER OF THE UNIVERSITY."

The chisel of the lapidary has engraven the words upon the hard nd imperishable marble of his tomb—and the stone helps biography and history to carry down the truth to succeeding generations.

Education is therefore to be *encouraged—encouraged* by the *State.* The words of the constitution are not addressed to the individual citizen either as a mandate or admonition. They are an injunction on the law making power—the General Assembly.

The duty cannot be shuffled off upon others, while faith is kept with the constitution. Whatever individuals or societies may do, there is still an existing obligation on the State. There is no possibility of evasion; the obligation must be met. The government is built not upon a throne or a peerage—not upon the aristocracy of blood or wealth—not upon any arbitrary or artificial distinction in man. Its foundation is mind—and the State is pledged to see that it shall be educated mind.

But is the State pledged to encourage agricultural education? By the second section of the same article of the constitution, it is provided that the Legislature shall take measures for the improvement of such lands as have been or may hereafter be granted by the United States to this State for the support of a seminary of learning—and it is further declared by the constitution, that the funds accruing from such lands, by rent, lease, or in any other manner, or which may be obtained from any other source for purposes aforesaid, "*shall be and remain a permanent fund* to support a university for the promotion of literature and of *the arts and sciences.*" The Legislature is also in the same section pledged to "the improvement and permanent security of the funds and endowments of such institution."

Take these sections together, and you see the whole mind of the framers of the Constitution. You see what they meant by *Education*, and who should have it. *A school in every township*, and the *poor* taught *gratis;* a university dedicated to *Literature*, to *Arts*, *Sciences;* funds for their support—*permanent* funds—out of the reach of legislative power, and never to be blended or mixed up with the revenue of the State—object and means, guarded with unusual care.

But what shall be taught—what literature, what arts, what sciences? The letters, arts, and sciences then known, or a select portion of them—or such as should rise with advancing civilization and knowledge? All of them—there are no restrictive words. The only limitation is that which arises out of the great object of instituting a free government, which is the liberty and happiness of man.

If Agriculture, as an art or science, tends to elevate the character of man—to enlighten his understanding, to promote his happiness, to advance his prosperity, and qualify him as a Trustee of Liberty—it is within the provision of the injunction, and must be encouraged by the State.

And who doubts, that it is the precise office of agriculture to produce just such results as I have named? It is wise and provident that the pursuits of men should be diversified. I make no war upon the diversion of labor. I honor honest toil, whatever may be its vocation, and least of all would I underrate the value of what are called the liberal professions; but unmistakably, of all the avocations of man, agriculture is the noblest and most useful. In proportion to their numbers, the temples of Justice are thronged by fewer agriculturists than by any other class of men. In the jails and penitentiaries they are hard to find, and the poor-house does not number them among her tenants. These are decisive tests of the influence of vocation upon character.

As to prosperity, agriculture is the only producer. She feeds the world. The struggle of all other vocations is to get the riches she affords. They con-

sume her products. In this eternal scramble, what one vocation gains, another loses. Take me as an illustration of the non-producers of the earth.

What I make somebody must lose. I add not an atom to the *wealth* of the world. If, quitting the law, I should go to California and discover a gold mine, still I would not have added one atom to the wealth of the world. Gold is not wealth—it is not value—it is only its representative. But the agriculturist creates wealth; and after his greatest gains he may lie down on his pillow and say: "I have taken nothing from any human creature; no man has lost because I have gained; Nature only has suffered under my toil, and man is enriched by it." I would have him add, "What Nature has suffered must be restored to her, and I will invoke Science to help me to make restitution." Finally, as to the influence of occupation upon freedom — no enlightened statesman has ever doubted that Agriculture is the safest keeper of the ballot-box.

How shall the State "encourage" *agricultural* "education?" The State may encourage agriculture in many ways. This organization is one of them. It stimulates the pride of the farmer—it collects for exhibition the most favorable specimens of certain products of the farm—it begets emulation among the tillers of the soil, and, what is perhaps more valuable, it leads to interchange of ideas between agriculturists, and thus tends to *disseminate whatever practical knowledge is now possessed by them.* But it *creates* no knowledge; it does not *augment* information; it does not furnish *agricultural education.* It does not teach. You come with what ideas you have gathered in your experience, and such may become known to a greater number of persons by the interchange of thought;—but the sciences auxiliary to agriculture are not here taught. You neither experiment nor investigate—you exhibit. If in your respective districts, any successful mode of culture of a grass, a grain, or an animal has been practised, that knowledge may well be imparted here to others, who will go back to their farms, resolved to submit to experiment what has here been communicated. The value of such ideas may thus be tested by a wider field of experiment, and every such test may help to the ultimate deduction of a law or principle—general universal, or only special.

If every farmer came here with carefully prepared statistics, showing the nature of his soil, the character of the seasons, the kind and quality of his seed, the mode of culture adopted by him, the quantity per acre of his yield, the nature of his manures, and how and when prepared, and when applied; together with the value of his land and the cost of production, embracing the wages of labor, when hired, or the value when not, &c. Such statistics gathered by this Association and carefully preserved, from year to year, might, in the shape of authentic facts, form a body of information, not only useful in showing the actual condition of our agriculture, but in leading to improvements in the art. They might be eminently serviceable to a Board of Agriculture as guides to investigation. They might lead to the true mode of culture where conflicting results followed the same mode of culture, or to the suggestion of such modifications as would be called for by different soils and local circumstances. But this Association, in its widest operations, could not furnish agricultural education.

The State might encourage agriculture by the establishment of a Board of Agriculture whose duty should be to collect and distribute all knowledge now known pertaining to the culture of the soil, or the growth of animals, aided by statistics furnished by the census, embracing a wide range of knowledge not now, by law, furnished by our census tables. It might be made their duty to examine and report the condition of the best conducted farms within the State, showing how results were reached in their culture. A commissioner of high scientific attainments might direct the action of the Board.

The State may encourage agriculture by disseminating the knowledge contained in the best agricultural periodicals published within the State, or elsewhere.—Their office is a useful one, richly deserving patronage and support; but, after all, the chief function of the paper is to spread what is already known. It extends the knowledge of the practical operations of individual farmers, but it does not furnish *agricultural education.* This Society, starting under State patronage—the individual Associations which are rising up in various portions of our country—every paper and periodical specially devoted to the art of husbandry—the industrial exhibitions of the world, are, each and all, movements in the right line. They speak the wants of agriculture. They indicate the strong conviction of the popular mind that the art of husbandry needs support; that the time has come when agriculture shall no longer be left to help itself — when it shall

cease to be the only art in an age of marvelous progress, left to struggle on, without the fostering aid and care of the Government. But they do not *furnish* what agriculture *needs*.

Agriculture, like every other art, must be educated. We educate for the law—we educate for medicine—we educate for war, for war upon the land, and war upon the sea. We educate for all arts and sciences, save that art or science which is the noblest of them all, and upon which all other arts and sciences depend. Three-fourths of our population are farmers, and will be for centuries to come, and yet there is not one institution in the United States in which a young man can acquire the important art of becoming a truly intelligent and skillful farmer.

I have indicated some of the sciencees which are the necessary allies of Agriculture. In some of the colleges of our country a portion of these sciences are taught—but they are not taught thoroughly, *and what is worst of all, they are not taught in connection with the art of husbandry*.

The round of studies crowded in a collegiate course of three or four years forbids thoroughness in any. Take chemistry as an illustration. How many *practical Chemists* does Yale or Cambridge turn out? Has she ever graduaded one Agricultural Chemist? Is organic chemistry taught at all? The student learns the *rationale* of an experiment—he does not experiment himself—he does not analyse. I would not undervalue the advantages arising from even the superficial knowledge of science acquired at these institutions. All knowledge is useful—and the graduate may be master of principles and laws, which, after application and study, may ripen into science. But with such know edge of the natural sciences as acquired at our best seminaries of learning, can the graduate rank as a skillful farmer? Can he be regarded as a farmer at all?

Agricultural education is theory and practice blended. It is knowledge applied—applied in the daily operations of husbandry. It is science, by the hand of labor, applied to the field, to the meadow and the barn-yard. The educated farmer is one who knows how to conduct his farm in conformity with the laws of nature. We have no institution at which this knowledge can be applied. Until such institution be established, let this Society, and kindred associations, live and work. Let the Agricultural Editor toil on with his press—supported and cheered by the farmer—by the influence of a healthy public opinion, and, if need be, by the State—and let a part of that work and toil be to demonstrate to the General Assembly, both the necessity of such an institution, and the obligation to establish it.

Our Government is popular—the men who make laws are only agents. The interest of agriculture is the greatest interest; the numbers engaged in it are a majority. Let its voice be a controling power in the State. I know that impediments will rise up to stop this scheme of benefaction. Prejudice will shake its hoary brow at it. Ignorance, venerable also for its antiquity, will smile at the thought of analyzing nature; and economy, in its Jewish gaberdine, will count the cost. Knowledge has ever had enemies, and these are her hereditary foes. It would be strange, indeed, if agricultural learning should *not cost*. Despotism costs—Monarchy costs.—Thrones and diadems are costly things. Liberty costs. Our own American liberty was won at great cost—and I trust it will be maintained at every cost.

Knowledge will cost—but we are able to buy it. I hope we shall not give more for it than it is worth. But ignorance, prejudice, and parsimony are not the proper appraisers of its value.

It will be said, if Agriculture needs teaching, and for teaching must have the school, the experimental farm and the college, why have they not been established heretofore? This question might be answered by putting others, embracing the history of all progress. Why is chemistry, as a science, only a century old? Why is agricultural chemistry half a century younger? Why is organic chemistry younger still? Why did not FRANKLIN invent the telegraph? Why did this world wait for FULTON to make a steamboat? And for GRAY to invent the locomotive? Why, indeed, is it that there is such thing as progress in human affairs? The propriety or necessity of educating agriculture can never be determined by such enquiry; but it is not difficult to trace some of the causes which have led to the present neg ected condition of the art of husbandry in our own country.

Bishop BERKLEY's celebrated prophecy as to the march of "empire," might with equal truth have been uttered of agriculture — for since the world began

empire and agriculture have traveled together, and their course has been ever toward the setting sun. The decline of Roman power began with the decline of her agriculture—and Rome fell when her luxurious population, deserting her fields, looked for *distant* provinces for supplies of corn. I know it has been said that the Spartans conquered the adjacent States of Greece because the soil of Sparta was too poor to produce corn. But the short-lived plunder cannot shake the eternal truth, that the stability of a nation's power depends upon its soil.

Our own country, then a part of the British Empire, attracted the attention of this eminent prelate and philosopher, and its immense resources then but dimly seen, may have inspired a prophecy, which will be remembered when his metaphysics shall be forgotten. His benevolent spirit originated a vast missionary scheme for the conversion of the red man of the wilderness—and he sailed to this country to execute it—but after a residence of two years his policy was frustrated by the administration of Walpole. I do not think it out of place to add—as a just tribute to agriculture—that Christianity must take agriculture with her into the forest, before she can reasonably hope to subdue and convert the heart of the savage. The hoe and the plough are the true pioneers of the Bible.

The vast area of this country compared with its population, and the richness of its virgin soil, conspired to bring about a careless culture—ending in the present state of agriculture in America. Man has relied more upon the bounty of Providence than upon his own skill. West of every worn-out field lay acres untouched by the hand of toil. West of every State exhausted by injudicious husbandry, lay territory in its virgin state, too tempting to the emigratory principle in man. It has been deemed less difficult to open a new farm than to improve an old one. Our population, by a law seemingly as irresistable as that which carries the waves of ocean to the shore, have from the Atlantic board, passed the Alleghanies, climbed the Rocky Mountains, and descended to the Pacific. Nothing in the world's history is like it. In 1620, the men of Plymouth Rock saw the first light of morning gild the waves of the Atlantic, and now their descendants see twilight deepen on the smooth waters of the Pacific.

A continent has within the period of a little more than two centuries, been subdued into civilization by our people, and much the largest portion of it has been compassed since the Declaration of Independence. In this eventful period, government, laws, and institutions have arisen—the creations of American mind—which extort the admiration of the world—but the genius of our people has not, heretofore, been led by inventive *necessity* to study the mysteries of the production of the earth. No famine has ever swept over this our own beautiful portion of the globe. With small toil its population has been fed, and a surplus produce has gone to supply the wants of older and more crowded nations. America has had more *land* than *laborers*, and accordingly we see the inventive mind of our country creating laborers out of wood and metal, and sending them to the field to do the work of men. In this department of enterprise, with the untaught study of only twenty-five years, we lead and teach the nations of the earth. And in any field of human enterprise, set but an object and a motive before the mind of America, and she will win trophies against the competition of a world.

Bounded now by two oceans, the period has arrived in the history of our country, when the public mind is directed to the improvement of our present possessions, and the agricultural mind of our country, especially, to the *improvement* of the soil within its present boundaries. The indications are unmistakable, as they are wide-spread. North and South, East and West, the cry is up, "why shall not Agriculture be an educated art?" Why shall not educated mind, go from the halls of learning, to the farm, as it goes everywhere else? How the young mind shall be educated to fit it for the field, has not been decided. It is a great question, requiring thought and mature deliberation. It is a subject worthy of the best energies of the best minds of America. Whatever suggestions I offer, is with diffidence, but by whatever steps of progress led, it seems to me, the end must be, the school, the experimental farm, and the college. I know no other mode by which Science—Agricultural Science—can be so taught as to *blend theory* and *practice*—the highest consummation of art. In other countries important attainments have been already reached by these instrumentalities. Europe, engaged for centuries in the cultivation of the arts of war, has since the fall of Napoleon, turned its attention to the arts of peace. In the short period of its repose, three hundred and fifty schools and colleges exclusively devoted to agricultural education, have arisen, surrounded by experimental farms, upon which the sciences taught have been practically applied. Necessity, that wonderful

mother of invention, has forced Europe, with its crowded population, to seize upon the first years of peace, to learn how to make the earth more bountiful.—Germany, France and England, within that period, have given birth to chemists of world-wide distinction, who have illustrated the power of Science over the soil. Government has been wise enough to put by the side of all engaged in the culture of a plant, or the growth of an animal, the chemist who has studied the laws of vegetable and animal physiology. The man of science has been able to teach the sheep-grower how to improve his wool. The testimony is uniform to this great practical test of usefulness, *that wherever these institutions flourish, Agriculture is most elevated as an art.*

Distinguished travelers, the reports made to our Patent Office, and the instructive evidence furnished by professor Hitchcock in his celebrated report on the condition of agriculture in Europe, made upon personal inspection, establish the truth of the proposition.

The Royal Agricultural College, at Cirencester, has six professors, and seven hundred acres of land for agricultural purposes. The school at Grignon, near Paris, has also six professors—and in this school, where the education is thorough, the entire course is three years. The experimental farm attached to it contains seven hundred and fifty acres. France has at present seventy-five agricultural institutions. The present ruler of the French nation has shown—whatever else he has exhibited in his imperial sway—sagacity and wisdom in his department of agriculture. At Versailles there is a National Agronomic Institute, employing nine first class professors and three thousand six hundred and fifty acres of land. The course of instruction in France embraces a wide range of the sciences. Thus the Grignon school teaches algebra, geometry, mechanics, surveying, leveling, stereometry, [the measuring of solied bodies,] and lineal drawings in the mathematical sciences—in the physical sciences, mineral chemistry, mineralogy, geology, and botany—organic chemistry or agricultural technology, agricultural arboriculture, sylviculture, veterinary art, agricultural zoology and equitation, in what are denominated technological sciences and rural architecture, forest economy, farm accounts, rural economy and rural law, in the noological sciences. This institution has already graduated six hundred students. Prussia alone has three superior schools, two intermediary schools, twelve inferior schools, thirteen special schools, and two connected with colleges and universities.

They abound in the various principalities of Germany, in Italy, and the Autocrat of Russia, in his wide domains, has found it necessary to establish sixty-eight agricultural institutions. The superior schools rank with our best colleges, in the extent and variety of the sciences studied, and the intermediary schools may compare favorably with most of our colleges. The institute established as late as 1818, by the King of Wuertemberg, has a royal domain of eight hundred and twenty-five acres, one director, six professors, besides six other functionaries charged with various labors. The instruction given is embraced in three departments. First—Agricultural matters. Second—Forest matters. Third—Auxiliary sciences. Omitting all that relates to the forest, let us glance at what is included in the agricultural course and the sciences in aid of agriculture.

First—Climate. Second—Soil. Third—Manures. Fourth—Tools and implements of tillage. Fifth—Of clearing up of ground. Sixth—Of meadows and pastures. Seventh—Of agriculture in general. This is divided into ploughing and other tillage, seed plots, [of grain and root culture,] threshing and preservation of grain. Eight—Of special agriculture. All cultivated plants are treated of particularly. One course of studies is viticulture, embracing the culture of the vine, and vine making. Another, the culture of fruit trees. Another, the rearing of cattle—the various races, their crossing, and the treatment of their young. Another, the rearing of the horse—his natural history, the different methods of raising, the choice of animals for reproduction.

The treatment of mares and colts, another rural industry in *winter*,—the manufacture of beet sugar, of liquid manures, &c., in *summer*, the manufacture of vinegar, cider, lime, and draining tiles, and the last course in agriculture embraces the whole field of rural economy: as valuation of real estate, general circumstances of the country, of farms in general, and the different parts of the same farm, of the home means of maintaining its fertility, of systems of culture, of labor and the internal organization of a farm, of the relation between the number of beasts and the land worked, of the capital of the farmer, of the different modes of working a farm, and the last, agricultural book-keeping.

I glance only at the sciences auxiliary to agriculture—higher arithmetic; algebra, trigonometry.

The science of measuring solids, applied geometry, mathematics applied to the culture of trees and the entire forest, and their valuation; physics, mechanics, chemistry, vegetable botany and physiology, special and rural botany, zoology, veterinary medicine; the natural history of domestic animals, their anatomy, animal physiology; the care to be taken of animals, the treatment and medicine for slight diseases, the description of diseases, pathology and therapeutics; veterinary surgery, the internal diseases of animals and murrains; rural constructions, prepairing plans and drawing of machines.

To illustrate these courses of instruction, the means are ample. Among them, the operations on a large farm, annexed to the Institute, a forest of five thousand acres, a botanic garden, a library, a geological and mineralogical collection, a collection of woods, seeds and resins from the forest, a collection in comparative anatomy, and a collection of specimens of wood; specimens of agricultural products; models of instruments of tillage, models for physical science, and collections for chemistry and the laboratory.

I should weary you by any further detail of the system of instruction established at the most celebrated of the Agricultural colleges of Europe. They form an interesting study for the statesman and the man of science, when he comes to the model which shall be adopted in our own country.

The question has been vexed in Europe, as to the manner of teaching the youth who devotes himself to the business of husbandry. In Prussia, and in many parts of Germany, they begin with the *practice* and end with *theory*. The student is made familiar with all the manipulations of husbandry, before he masters the science which directs them. Perhaps you will pardon me if I bring before you a nearer view of the working results of these Institutions.

At Breslau, in Prussian Silesia, in September, 1845, a meeting of German agriculturists was held, numbering about one thousand members. Several sovereigns were present by deputies—the agricultural societies were represented by their ablest members, and the most distinguished scientific Professors of Agricultural Institutions, formed a constituent part of the assembly. After a speech from the President of the body, on the condition of agriculture in Silesia, the organization of six committees, to report upon six subjects, to wit: 1. Agriculture proper. 2, Raising Stock. 3, Culture of the Forest. 4, Technical branches. 5, Fruit and Vine culture. 6, Wool-growing.

The examination of sixteen students came off—students who had been instructed in various agricultural institutions of Prussia and Germany These young gentlemen were seeking to become qualified to conduct the operations of Baronial estates. The eldest was twenty-three, and the youngest, sixteen years of age.

After answering various questions in writing, connected with their studies, they were taken to an estate called Rosendale, near Breslau. In the yard the pupils were shown a wagon, marked in thirty-six parts—a plough in thirty-five parts—a harrow in six parts—making altogether, eighty-two separate parts. Each pupil had to put down on paper, the name of each part to show whether he was acquainted with all the parts of the different implements, and in case of breakage, to mention the most efficient mode and means of repairing.

A sheep was then brought forward, and they were required to put down on paper, the answers to the following questions: 1st. Is this sheep healthy—and why? 2d. How old is this sheep? 3d. What is his age in shepherd language? Each pupil was next required to catch a sheep himself and examine it, and report whether it was diseased, and the signs of the disease. They were also to point out upon a sheep the places where the worst wool grows, and on which the best —and likewise to designate the places where the faults of wool are most liable to be inherited. Several head of cattle were now brought before them, and the following questions propounded:

1. How much milk can a cow of this breed give, when fed with grass or other green fodder? and how long since she had a calf?

2. How many pounds of fodder does a cow of this breed require per day, during summer—how much during winter—and the cost?

3. How many calves has this cow had? And how old is this cow?

4. What breed is it, and why do you say so?

5. How much will she weigh of meat? how much of tallow?

They were then examined upon horses. The horses being first inspected by the pupils, the following questions were required to be answered: 1. What are the peculiar qualities of this horse as a plow horse? 2. Which of these qualities are requisite for a good plow horse, and which are not? 3. How old is this horse? 4. Several places were designated on the horse, and the pupils were required to tell what diseases affected this or that part, and the remedy. 5. The anatomy of the horse, and the hoof especially, became the subject of examination.

The pupils were then conducted to the barns, where they had to show their skill in making straw bands, in cleaning grain and in sowing grain, &c. Afterwards they were taken to the fields—first to one of light soil, and then to one of heavy soil, and the following questions were put to them. 1. What is the name of this kind of soil? 2, What are the names of the principal parts of which this soil is composed? 3, What is the name of the subsoil, and is the subsoil retentive or not? 4, What kind of crop succeeds best on this kind of soil? 5, How large would you make the beds on such soil, and why? 6, Is this soil heavy or light, cold or warm? These and similar questions were asked of the soil at different spots. They were then asked, in writing, the following questions. 1, In the case of a heavy soil sown with wheat and oats, and in that of a light soil sown with rye—state for every month how much ploughing and harrowing has to be done, and with how many horses or oxen? How much manure will you require, expressed in loads? Do you call that light or heavy manuring? How will you treat the manure in the stable, in the dunghill, and in the field? When you have at command drainings of your ordure pile and mineral manure, how and for what crops would you use them? What kind of weeds appear in the summer crop? What in the winter?—and how would you destroy them? How keep them from coming up? If you have good and bad meadows, to what kind of cattle will you give your best, and which the worst kind of hay?

In the department of economy — involving the relation between the various kinds of labor to be performed, and the force necessary to its accomplishment, the examination was conducted with great rigor. It embraced the preservation of every crop—and the *distribution* of the labor as well as its amount. So also the subjects of drainage and ditching, and other farming operations in their minutest detail, were put to the pupils with rigid severity. The examination closed with the important theme of Agricultural Book Keeping—showing the entire operations of a farm—the relative distribution of forces—and the cost of food consumed by each animal—and the wages of labor.

I give you the collected mind of this august assembly of Agriculturists in the form of four propositions reported by committees, and adopted by the meeting—

1—Educate the masses for their pursuits in after life.

2—In regard to Agricultural education—the *practical* must be thorough.

3—In Theory, all high scientific speculation should be avoided; and its application to practice alone be taught.

4—To establish Boards of Examination over all Germany, with proper examiners for every district.

Under such maxims the educated agriculturist will not be apt to run wild upon beautiful but visionary fancies. Theory is tested by the true touchstone of truth—the capability of being reduced to practice. I trust we shall ever avoid the Sangrados of Science.

There is no universal sovereign specific for the cure of sick soils. Above all other pursuits, agriculture demands the co-operation of knowledge and ability —theoretic acquaintance and practical skill, insight and outsight.

I would have my country profit by the wholesome lessons of all countries, but just distinctions must be made, arising out of difference of circumstances. The course of instruction suited to Europe will require modification here. We must adopt its agricultural learning, as we adopt the common law of England, only so far as it is suited to the nature of our institutions and local condition. Light, heat and moisture, climate and seasons are important agents greatly modifying in different localities the processes of nature. The education for America —must be American.

Who shall teach? will be the enquiry of adversaries. The question is pertinent and the objection plausible. Who shall teach? The answer is two-fold. Our institutions of learning in the beginning were conducted by European mind. In founding the University of Virginia, Mr. JEFFERSON relied upon Europe for

Professors in several important branches of science. But I take high ground. Mind, like commerce, obeys the law of demand and supply. Create a demand for intellect in any walk of human enterprise, and it will be supplied. I feel my breast swelling with the proud thought, that the intellect of my country will honor every draft that may be made upon it, under whatever exigency of progress.

In England, the pride of birth impairs the usefulness of her best agricultural college. The sons of noblemen will not work, save by the side of their peers. The young sprigs of nobility lose caste if seen toiling by the side of a youth whose father never wore a star or garter! What artificial things aristocracy makes of men. Will the day never come, when ribbons shall cease to dwarf man? When the now impassable barriers of caste, shall be broken down, or perish piecemeal, by that law of decay which attaches to all things immature? When human progress shall no more be arrested or impeded by the conventionalisms of rank, creating distinctions in man, which the vision of his Creator is not sharp enough to see?

If there be, within the sound of my voice, one father whose parental pride is seeking to gratify itself by placing his son in a position *above* the rank of farmer —if there be here one Madame Deschapelles, who sighs to wed her daughter to a title—one beautiful, proud Pauline, who yearns to glitter as the bride of nobility?—to that father I say, You have forgotten the lessons of the father of your country;—to that matron, You will never be the mother of a great American statesman;—to Pauline, True nobility in man is never found above the dignity of labor.

And if there be in our State one youth of promise, who feels within his breast aspirations kindled by the pride of intellect — who whishes to make his mark upon his age and generation—who scorns to be ignorant, and would rise to knowledge, but would avoid the fields as not being the path that leads to fame—I have some special words for him: "Young man, what do you aim at? what model of excellence is in your mind? to what country and what age do you look for an example? Are you fascinated by the deceptive halo which antiquity throws upon the men and deeds of remote ages? Then go to Rome in her purest, palmiest days—when to be a good citizen was to be a good farmer—when to be a skillful agriculturist was the highest distinction of a Roman citizen—when unskillfulness in farming was visited by the rebuke of the Censors. Study the names of such Romans of that period as history makes immortal, and you will find that they come down to us, not by the names given to them at birth, but by titles derived from the plants and grains brought to greatest perfection under the culture of their own hands. In that school of virtue and true glory you will find that history had a holier office than to record the intrigues and battles of ambition. Or, if willing to take a model from the short but glorious career of your own country, look at the names which make a part of our national property. Of all the men who have shed lustre upon our annals, how few can you number who were not farmers!

Be assured, there is not an error more mischievous to start with in life— no one apter to mar the usefulness you aim at, than the mistake of supposing any incompatibility between husbandry and greatness. Statesmanship, which opens to noble ambition the widest paths of honorable fame, is only farming on a large scale. Are you captivated by the exhibition of intellect in its highest reach, winning loftiest honors at the bar and in the Senate? Contemplate the life and death of Daniel Webster. See how his mind acquired strength of fibre, in his farm life, amidst the hills of New Hampshire; watch it in the acquisition of knowledge at college; its earliest triumphs at the bar; pursue it to the Senate Chamber; the scene of its matured splendor; follow it in the quiet shades of Marshfield; and every where you will behold its unbroken allegiance to the soil. In the last days of his life, what brings him from the sick chamber to the porch, to look for the last time upon a scene lit up "by the sun in heaven?" Upon what does his "last lingering glance" fix itself? The ocean is at his feet; he hears its murmurs, and the sea breath fans his whitened locks; perhaps his soul-seeking sympathy with its own elements of grandeur, gazes on what in nature was the type of its depth and power? No! no! it is not that; his deeply poetical nature turns from the contemplation of mere physical nature in her sublimest aspect and seeks the "utterances of life" in pastoral simplicity. He turns from the sea; his eyes are on the fields enriched by his culture; on the lowing herds who miss the hand that fed them. In that moment, whatever are his other aspects, he stood revealed to us and to the world, as the farmer of Marshfield.

Mr. President, we live in a remarkable age. The human mind, starting out in new paths of inquiry, has established a new dominion over the physical world. On the sea, and on the land, Time and Space, the old foes of progress, are nearly conquered—conquered by Science. Once they were Despots, but now, reasonable Rulers, confined within certain well defined limits of power. The spirit of progress demands yet further restrictions. See how science has laid her hand upon the sea! Commerce once crep from headland to headland in timid crafts. Science gave her the compass, and she went from shore to shore. Naval architecture then became underwriter for the safety of cargo and crew. The mad waves which once severed nation from nation, science turned into the theater of national contests in peace and in war; and weary of the laggard and fickle motion of the winds, she seized the invisible strength of water, put it into iron harness, and defied both wind and wave. She made "her home upon the deep," but her greater triumphs are on the land. The locomotive is swifter than the steamship. By their united power, oceans dry up, continents shake hands, and Ariel's girdle belts the earth. Men are made of wood and metal and stone—swift men—strong men—enduring men—who live and work, without food, without sleep, and on small pay—but amidst all this marvel of progress, which changes the commerce and character of the world, puts new ideas in the heads of statesmen, and reverses the policy of cabinets, how little has been accomplished by science to augment the productive power of nature! She has been treated as if the principle of decay could never touch her bosom, nor the process of exhaustion diminish its supply. Agriculture is the only art left behind in this unparalleled advance of all other arts and sciences. Is this neglect, a necessity or an oversight? That is the great question for solution. Let the agricultural mind of Missouri determine it.

The earth belongs not to those who now live on it. It is an estate in perpetuity. We are the tenants of this age, and there are countless ages of remaindermen. Responsibility to God and man rests upon all who injure or destroy the fee.

Article IV.

[From the Railroad Record.]

Iron Mines, and Iron Trade of Ohio and Cincinnati.

The production and manufacture of iron is of immense importance to any country, or state. It is speciully important that iron mines should be near any large town, like Philadelphia, Cincinnati, or St. Louis, which must depend chiefly on a trade with the interior — always largely increased by a capacity to manufacture iron articles of all sorts. Of the great advantage Cincinnati has derived from this source, we gave one example, in our last number but one, in the manufacture of marbleized mantels by Horton and Macy.

We shall not exaggerate, when we say that in Cincinnati, and its suburbs, there are not less than *sixty iron factories* of the largest sort—which, with their dependent work-shops, give employment to full *five thousand operatives.*

This immense development of the iron manufacture has arisen chiefly from the nearness and excellence of the Ohio Iron Mines. This fact also insures the continuance and extension of this kind

of industry far beyond its present limits. It is also quite sure to result in raising up large towns, in the mineral region, where coal, iron, and stone, lie contiguous to each other. We have an example of this in the rapid growth of Ironton, which is only one of many towns, which will grow up to magnitude and prosperity in the same region, as time and capital develop the mineral resources of that section. As the iron business has risen to so much importance, and is so intimately connected with railroad traffic, it may be interesting to give an outline of the Iron Mines, and Iron business of Ohio.

The iron ore of Ohio is found almost entirely east of the Scioto, and occasionally in the form of bog ore, in the north. The principal depositories are in the counties of Adams, Scioto, Lawrence, Jackson, Vinton, Hocking, Gallia, Athens, Muskingum, Licking, and in the same geological section continued to the Lake. The *furnaces* are found almost entirely in Adams, Scioto, Lawrence, Jackson and Gallia. One has recently been built in Hocking, and one on the edge of Athens.

The Iron works, and Iron produce of Ohio, are:

PIG IRON.

Furnaces	35
Tons of Iron Ore used	140,610
" Pig Iron made	52,658
Bushels o Coal consumed	605,000
" Coke and Charcoal	5,428,800
Operatives employed	2,415
Capital invested	$1,600,000
Value of Products (in 1853)	$2,000,000

In the production of Pig Iron, Ohio is the *second* state in the Union, being next to Pennsylvania. Pennsylvania produces *half* the Pig Iron of the United States, and Ohio about *one-tenth*.

IRON CASTINGS.

Factories	183
Pig Metal, Iron, and Ore used tons,	41,000
Castings made "	38,000
Coal consumed bush.	840,000
Coke and Charcoal "	355,120
Operatives employed	2,758
Capital employed	$2,000,000
Value of products	$3,200,000

WROUGHT IRON.

Factories	11
Pig Metal used tons,	13,675
Blooms "	2,900

Coal consumed	bush.	600,000
Coke and Charcoal	"	466,900
Operatives employed		708
Wrought Iron produced	tons,	14,416
Capital invested		$700,000
Value of products		$1,500,000

In the manufacture of castings, Ohio is the *third* state; and in wrought iron the sixth. The establishments for the manufacture of castings are *one-seventh* in number of those in the Union.—The following general view will give the *relative* standing of the principal states in the manufacture of iron:

	Iron Works.	Value of Products.
Pennsylvania	631	$20,327,000
New York	401	7,941,000
Ohio	229	6,700,000
Virginia	122	2,450,000
New Jersey	108	1,975,000
Tennessee,	81	1,610,000

These states produce more than two-thirds the iron ore and iron manufactures of the United States. Both Tennessee and Kentucky are destined to produce and manufacture an immense amount of iron; but, at present, Ohio is much ahead in that department of industry, and has raw material to supply her manufactures for generations to come. It is destined to enter very largely into the business and construction of railroads. It is a very extraordinary thing, that in view of the very great superiority of American iron rails in wear, that our Railroad Companies have not obtained more at home. The system of buying iron for bonds will prove a very bad one, if it diverts the support which ought to have been given to American industry into foreign channels. We undertake to say, that if the English did not sell their iron for bonds on a very long credit, they would not have been able to sell one-fifth the amount which has been brought to this country.

Having given an aggregate view of Ohio iron manufactures, it may be well to note its *growth*. This is quite extraordinary. The comparisons of results, under the censuses of 1840 and 1850, were:

	1840.	1850.
Iron Works	92	229
Operatives	2,581	5,881
Value of products	$3,421,000	$6,700,000

This comparison shows that in the aggregate, the iron business of Ohio increased 100 per cent. in ten years. From the aspects

of business in the last three years, we may safely anticipate that it will increase yet more rapidly in time to come.

Looking specially to Cincinnati, we find here an immense and rapidly increasing iron manufacture. As the pig metal and bloom brought to Cincinnati, with much of the iron bar, is used in various manufacture, the annual imports of iron from the iron region is a fair test of the progress of iron manufacture and consumption. Here we extract the following return of iron imports into Cincinnati from the "Price Current:"

	1848–49.	1852–53.
Iron, tons	1,768	14,124
" pieces	187,864	294,001
" bundles	29,889	66,131
" pigs tons	15,602	30,171

We then find that, in the short space of *four years*, the import and manufacture of iron in Cincinnati has increased at least 150 per cent. We discover further, that while, at the present time, about 55,000 tons of iron are produced in Ohio, 44,000 tons are imported into Cincinnati. A part of this import comes from Kentucky, Pennsylvania, and Tennessee; but much the larger part from Ohio. It is, therefore, very evident that Cincinnati is the great market and manufacture for Ohio iron; and indeed for that of Upper Kentucky. At the very point in the Ohio Valley, which is left out of the coal and iron seams—as if to depend solely on agricultural products—she has, by virtue of steam communication and her own enterprize, become the very best point, and actual center of all those branches of industry which depend upon coal and iron to develop. She has put *her long arms* into every mine and every granary, supplying herself with material and food, which genius, enterprize, and industry, have converted into the elements of wealth and prosperity.

ARTICLE V.

JUVENILE REFORM SCHOOLS.—Petition of M. Tarver to the Congress of the United States.

TO THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES IN CONGRESS ASSEMBLED.

The undersigned, a citizen of the city of St. Louis, State of Missouri, respectfully represents to your Honorable body that the action of the thirty-second Congress upon the Homestead bill and other bills, relating to the disposal of the public domain, and the general approbation with which those measures seem to have been regarded by the people, have led him to conclude that the policy of looking to the public lands as a source of revenue, is destined to give place to one more liberal and philanthropic.

Proceeding upon this assumption, your memorialist respectfully suggests that among the many objects claiming the consideration of your Honorable body, none possess higher claims than the cause of intellectual and moral improvement. Intelligence and virtue constituting the only solid basis of democratic institutions, the first and highest duty of the government, is to make sure the foundations upon which it reposes.

By referring to history, it will be found that the decline and final dissolution of all the great nations which have passed away, may be traced to the vices of their cities; and it will be conceded, as your memorialist believes, that similar causes are not less fatal to democratic than to monarchical institutions. Nor are the cities of the United States less fruitful in vice than those of other countries.

According to data, believed to be authentic, there were twenty-one thousand two hundred and ninety-nine commitments to the prisons of New York city, in the year 1850. It is true, all these may not have been voters; but it is reasonable to infer that the number of depraved individuals who are entitled to vote in that city, is at least equal to the number of commitments. That such men can be bribed, it would be folly to doubt; but the extent to which they may control the policy and future destiny of the nation, depends upon contingencies which none can foresee.

Though the criminal record of the city of St. Louis may not contain facts as startling as those which have been shown to exist

in New York, yet most of the causes of moral degradation in the latter prevail in the former.

Situated at the commercial center of the basin of the Mississippi, St. Louis is the point of destination for a large portion of the immigrants intending to settle in the Valley States. And though industrious, honest and respectable as a body, many arrive destitute of money, and not a few ignorant and vicious. The hospitals and poor-house are crowded with the sick and disabled, and the house of correction with the idle and profligate. The latter possessing no disposition to engage in rural occupations, remain in the city, and hence, in addition to the vices of local origin, there is almost a daily importation from other countries.

Thus far, the city authorities and citizens of St. Louis have acted most liberally in making provision for the unfortunate, and with becoming energy in correcting the vicious; but the continual and accumulating demands upon their means for immediate relief disable them from making appropriations to establish reformatory institutions upon foundations sufficiently broad and permanent to countervail the fruitful sources of vice which menace the city with the evils of pauperism and crime.

In view of these facts in connection with the immense quantity of lands held by the General Government, a wise policy would seem to demand an appropriation of a sufficient quantity of the public domain to establish and support institutions calculated to prevent the growth and accumulation of pauperism and crime in the city of St. Louis, and in other cities affected by similar causes.

Will your Honorable body give a homestead to every individual who may settle upon and improve the public domain? The consequences of such a measure would be but temporary. It may expedite the settlement of the public lands, and improve the condition of individuals, but the condition of the next generation, as a community, would be no better than if the lands had been sold by the government, at a reasonable price.

Should Congress make donations to aid in the construction of railroads and canals, such a policy would be wise and just; yet, all these improvements will be made, in their proper time, by individual enterprise and capital; and when done, the wants of commerce will be as well supplied, and the wealth of the nation as great, as if the work had been done at the cost of the government.

Will you donate lands to ameliorate the condition of the Indigent Insane? Truly, this would be a philanthropic and praiseworthy act, but its influence would be limited to a small number of individuals who are incapable of crime, and can in no way endanger the stability of our institutions. Or, will you distribute a part of the public domain among the States for the support of common schools? Such a measure would be worthy of the age, worthy of the country, and worthy of American statesmen.

If one, or even if all these measures should be favored by your Honorable body, still there is an additional argument in behalf of a grant in aid of Reformatory institutions: JUVENILE REFORM SCHOOLS for large cities, where, instead of being sent to the work-house or prison, and compelled ever after to live an outcast and a pest to society without hope of amelioration, the youthful offender— the offspring of vicious and degraded parents—shall be separated from his associates in crime, and educated and trained to some honest employment.

Missouri is the largest of the Valley States: and it is but reasonable to conclude that she will, in time, contain a larger number of inhabitants than any other State of the Union. St. Louis is destined to be a mighty city, controling, in a great degree, the social condition of the State, and affecting indirectly the policy of the nation. And if in proportion to her population she should ever contain the number of paupers, and the amount of depravity, which are known to exist in some of the large cities, contingencies may arise when this accumulated mass of ignorance and vice will control the destinies of the republic. Hence, the social condition of the citizens of St. Louis, and of other large cities, has a relation to the well-being and permanency of the Union, which may well claim the consideration of American statesmen.

And believing that none of the objects herein mentioned possess higher claims to a portion of the public domain, your memorialist respectfully prays your Honorable body to donate to the State of Missouri, a reasonable quantity of land, to be held in trust for the establishment and perpetual support of a Juvenile Reform School, embracing such objects, and to be established under such rules and regulations, as the legislature of said State may prescribe.

And your memorialist will pray, &c.

M. TARVER.

ARTICLE VI.

Report of the Secretary of the Treasury.

The subject of "National Finance," involving the question of protection to American industry, and the principles of free trade with foreign nations, affects, either directly or indirectly, every branch of industry in this country; and, consequently, the facts developed by the operations of the existing tariff of duties, commend themselves to the careful observation of every American citizen. The most imposing fact presented in the following report is the excess of duties collected beyond the wants of government, during the last fiscal year.

We have ever been the uniform advocates of protection to American industry; but are constrained to admit that the degree of protection should be modified by the amount of revenue required for the support of the government upon liberal and just principles, administered with economy.

Frequent adjustments of the tariff are to be deprecated: no change can be made without affecting adversely the interests of some one, or perhaps many branches of industry. Hence it will be wisdom on the part of Congress, before making any important change in existing regulations, to consider well whether the excess of revenue has not been occasioned by causes temporary in their nature; and if so, whether it is not better that there should be an occasional surplus than a general deficit?

The suggestions of the Secretary of the Treasury, touching the enlargement of the "free list," command our approbation. This is doubtless the true mode of reduction, so long as it acts upon commodities which do not come in competition with American industry. But we find articles in the "free list" proposed by the Secretary which, in our opinion, deserve protection in as great a degree perhaps as any now on the duty-paying list. We notice the more objectionable articles in the order in which they stand on the list.

Copper in pigs, bars, plates or sheets. Copper when old and fit only to be remanufactured, and copper for sheathing of vessels, is proposed to be admitted free of duty. The two main objects of a tariff—revenue for the support of government and protection to American industry—are most fully recognized by the Secretary

in his report, but he seems nevertheless to have studiously avoided the word "protection," for it does not appear even once in connection with the subject. Now, if we keep these two objects in view, it must be admitted that the policy of abolishing the duties on copper is, to say the least of it, very ill-timed. Great Britain has long controlled the copper trade of the world. We have been dependent upon her for our supplies, and it is only within a few years that a spirit of mining for copper has been awakened in this country. Much labor and capital has been employed in explorations, and there are but few instances where sufficient progress has been made to compensate the labor and money expended. And should the duties be taken off of foreign copper at this particular juncture, it would operate unjustly to those who have so recently engaged in the business, and act as a check to this branch of industry, from which it would not recover for many years.

Earthen and Stoneware, are also put upon the "free list." Our objections to admitting foreign copper free of duty, apply in all their force to these articles.

Madder, ground, and madder root. Until very recently the culture of this plant has been almost entirely neglected. It is now beginning to attract attention, and if it should be found profitable to the grower, we shall soon supply the home demand. We think it would be an unwise policy to abolish the duties on the foreign article at present.

Red and White Lead. It is proposed to place these articles also upon the free list. To this there is a two-fold objection: it is calculated to affect adversely both the mining and manufacturing interests of the country. We can perceive no argument that will justify the prostration of this branch of industry, that would not apply with equal force to any other in the land.

Steel, in bars, cast, shear or German. We can perceive no good reason for making a distinction between this article and iron, and trust that if any change be made, Congress will place both upon the same footing.

Wine of all kinds, except champaigne, imitations of wine, and adulterated wines. The proposition to place this article on the free list, suggests many interesting topics relating to the history of the country. Formerly, wine was regarded as a luxury enjoyed chiefly by the rich, and was therefore deemed a very proper object whence revenue should be derived. This was a just view

of the subject when the Statesman was compelled to look around for objects of taxation which were best calculated to equalize the burthens of the community; but now the question arises, to what extent can articles of luxury be relieved from duty, with a view to the protection of labor? And did we not possess an extensive region favorable to the production of wine, we should unhesitatingly assent to the proposition of the Secretary of the Treasury, to place that article on the free list. But the culture of the grape, so long neglected in this country, is beginning to receive considerable attention in several of the States. This branch of industry is now in its infancy, struggling against the difficulties incident to all new pursuits, and if the action of the government should materially affect the prospects of profits to be derived from it, there is great danger that it will be abandoned entirely.

We have long regarded wine-growing as worthy to be classed among the most important branches of rural industry. It claims the countenance and care of the philanthropist as well as of the statesman. For while it is calculated to increase the volume of national wealth, it will be found a more potent friend to the cause of temperance, than the Maine liquor law combined with all the associations which have ever been formed to prevent the use of destilled liquors.

The Secretary of the Treasury has excepted Champagne from the free list; if this exception could be extended so as to embrace all those sorts of wine which are most likely to compete with our own products, then we should not object to relieving all others from the payment of duties.

There may be other articles amongst those proposed to be placed on the free list liable to similar objections; but we have aimed to notice only those which seemed most likely to affect adversely the industrial pursuits of the country.

It is worthy of notice that notwithstanding the Secretary of the Treasury discriminates between articles which should be "taxed," and those which should be placed on the free list; yet he proposes to divide all dutiable articles into two classes, and tax all contained in each at the same rate. This mars the symmetry of his whole system. All articles, except a few of but little importance placed on the hundred per cent. list, are to pay a duty of 25 per cent. The tariff is to be lowered on some, and raised on others, without regard to the effects which may be produced upon the in-

terests of producers or consumers; and all the evils incident to disturbing the rates of duties are to be inflicted upon the country for no better reason than that the measure will "give greatly less trouble in the collection of the revenue." We must be allowed to protest against a policy which, looking to the ease and convenience of those engaged in the public service, takes no cognizance of the convenience and interests of the people. Furthermore, we must say that we cannot perceive wherein the trouble of collecting duties would be materially lessened by establishing a uniform rate.

We take no party view of this subject. We find much in the report to commend: it is our duty as journalists to express our opinion touching all subjects affecting the common welfare of the nation.—*Sen. Ed.*

TREASURY DEPARTMENT,
December 6, 1853.

The estimated receipts for the fiscal year ending June 30, 1853, were as follows:

From customs	$49,000,900 00
lands	2,000,000 00
miscellaneous sources	300,000 00
Balance in treasury July 1, 1852	14,632,136 37
	65,932,136 37
And the estimated expenditures	60,560,056 86
Estimated balance July 1, 1853	5,372,079 51

This balance to exist after applying $7,199,477 77 to the redemption of the public debt.

The actual receipts for the fiscal year ending June 30, 1853, were as follows:

From customs	$58,931,865 52
lands	1,667,084 99
miscellaneous sources	738,623 89
Making the total receipts	61,337,574 40
Add balance in treasury July 1, 1852	14,632,136 37
Total sum for the service of the fiscal year ending June 30, 1853	75,969,710 77

The actual expenditures for the fiscal year 1853 were, viz:

Civil List	$4,784,396 93
Foreign Intercourse	599,030 14
Miscellaneous	11,792,369 70

Department of the Interior	5,529,535 87
Do. of War	9,947,290 59
Do. of the Navy	10,891,639 59
Public Debt	10,482,555 39
	54,026,818 21
Balance in the treasury July 1, 1853	21,942,892 56

(As appears by the accompanying statement A.)

The estimated receipts for the fiscal year ending June 30, 1854, were as follows:

From customs	$49,000,000 00
lands	2,000,000 00
miscellaneous sources	200,000 00
Add estimated balance July 1, 1853	5,372,079 51
Total estimated sum for the fiscal year ending June 30, 1854	56,572,079 51

And the estimated expenditures were:

Balance of former appropriations	$6,879,883 28	
Permanent and indefinite approp.	9,172,829 68	
Specific appropriations asked for	30,151,040 64	
		46,203,753 60
Which would leave an estimated unexpended balance in the treasury on July 1, 1854, of		10,368,325 01

The actual receipts for the 1st quarter of the fiscal year 1854, ending September 30, 1853, were as follows, (as appears by statement B,) viz:

From customs	19,718,822 00
lands	1,489,562 05
miscellaneous sources	147,994 87
Making total receipts	21,356,378 92
To which add the actual balance in the treasury on the 1st July, 1853	21,942,892 56
Making the total sum of	43,299,271 48

The actual expenditures for the same first quarter were as follows, viz:

Civil list, foreign intercourse, and miscellaneous	4,381,091 62
Interior Department, Indians, and pensions	846,213 01
War Department	2,935,861 40
Navy Departement	3,140,129 35
Redemption of public debt	3,778,088 32
	15,081,383 70

Leaving a balance in the treasury, September 30, 1853, of		28,217,887 78

The estimated receipts for the second, third, and fourth quarters of the fiscal year ending June 30, 1854, are as follows:

From customs		37,000,000 00
lands		3,000,000 00
miscellaneous sources		300,000 00
		40,300,000 00
To which add the balance in the treasury, September 30, 1853		28,217,887 78
Making a total sum of		68,417,887 78

The expenditures estimated by the Departments for the second, third, and fourth quarters of the fiscal year ending June 30, 1854, are as follows, viz:

Civil list and foreign intercourse, &c	$13,570,833 54
Deficiencies in the Postoffice Department	1,895,445 63
Interior Department	2,629,350 10
War Department	12,874,817 22
Navy Department	8,135,280 67
Public debt [interest]	3,145,556 00
Do. [redemption]	15,000,000 00
Total estimated expenditures	57,251,283 16
This will leave an estimated balance in the treasury on the 1st of July, 1854, of	11,266,604 62
The balance of the appropriations for the year ending June 30, 1853, which remained unexpended on that day, and which is liable to be expended in the year ending June 30, 1854, is	17,630,758 75
The specific appropriations for the year amount to	34,051,269 58
The indefinite appropriations for the year are, as far as ascertained by actual payment, to October 1, 1853 $5,100,425 75	
As estimated for the residue of the year 6,365,526 95	
	11,465,952 70
Making the whole amount of appropriations liable to be expended in the year 1854	63,147,981 03

The estimated receipts for the fiscal year ending June 30, 1855, are as follows:

From customs	$51,000,000 00
lands	3,500,000 00
miscellaneous sources	500,000 00
Making the sum of	55,000,000 00
Add the estimated balance in the Treasury on the 1st of July, 1854	11,266,604 62
This makes the total estimated resources for the fiscal year ending June 30, 1855	66,266,604 62

The estimated expenditures for the same year is as follows:

Balance of former appropriations, which will be expended this year	$6,805,126 44
Permanent and indefinite appropriations	8,285,716 14
Specific appropriations asked for this year	35,909,434 54
	51,060,277 12

This sum is composed of the following particulars, viz:

Civil list, foreign intercourse, and miscellaneous	$12,161,436 09
Expenses of collecting revenue from customs	2,200,000 00
Expenses of collecting revenue from lands	129,900 00
Deficiency in the revenues of the Postoffice Department	2,700,000 00
Army proper, &c.	11,989,397 50
Fortifications, ordnance, arming militia, &c.	2,049 334 00
Improvements, &c	311,500 00
Indian Department	1,784,471 84
Pensions	1,876,072 95
Naval establishment, including dry docks and ocean steam mail contracts	12,712,358 74
Interest on the public debt	3,145,806 00
Making in all the sum	51,060,277 12
Leaving an estimated balance in the Treasury, July 1, 1855, of	$15,206,327 50

To be increased about ten millions by that part of the appropriation not expended within the year, and subject to any reduction that may be made in the tariff for half the year, or to any sum which may be applied to the public debt during the year.

The public debt on the 1st of July, 1852, was as follows:

Loan of 1842	$8,198,686 03
Loan of 1843	6,222,931 35
Loan of 1846	4,999,139 71
Loan of 1847	26,214,050 00

Loan of 1848	15,740,000 00
Texan idemnity	5,000,000 00
Do. not issued	5,000,000 00
	71,374,807 09
Old funded and unfunded debt	114,118 54
Treasury notes outstanding	132,161 64
Debt of corporate cities	780,000 00
	72,401,087 27

The sums paid for redemption of public debt during the fiscal year ending June 30, 1853, and the premium, &c., were as follows:

Loan of 1842	$167,485 60
Loan of 1843	4,296,862 50
Loan of 1846	68,240 00
Loan of 1747	1,668,650 00
Loan of 1848	193,300 00
Total stock redeemed	6,394,508 10

Premium on the same, $420,498 64; since which time, and up to 3d December, 1853, the public debt has been reduced to $56,336,157 52, leaving the public debt on the 3d December, 1853, as follows:

Loan of 1842	$6,872,135 54
Loan of 1843	92,800 00
Loan of 1846	4,048,400 00
Loan of 1847	20,738,700 00
Loan of 1848	14,444,491 80
Texan idemnity	4,887,000 00
Do. not issued	5,000,000 00
Debt of corporate cities	24,000 00
Old funded and unfunded debt	114,118 54
Treasury notes outstanding	114,511 64
	56,336,157 52

The accompanying table C. exhibits the time of redeeming and purchasing the public debt, and the amount of premium paid for it, from the 1st July, 1852, to the 3d December, 1853.

From this table it appears that $3,342,150 was redeemed and purchased from the 1st July, 1852, to the 4th of March, 1853, and $12,722,779 75 from the 4th of March, 1853, to the 3d of December, 1853.

Within a few days after the 4th of March, 1853, it was ascertained that the sum of $1,750,000 had been advanced by my pre-

decessor to a broker in New York, and $493,000 to a firm in Washington, for the purchase of the public debt.

These accounts have been closed in part by the transfer of the stock agreed to be purchased, and in part by replacing the money in the public treasury. There has been no loss from these transactions; but it was considered that such an advance of money to agents for the purchase of the debt was of doubtful policy, and might become hazardous, and lead to a misapplication of the public funds, and to favoritism. It was determined not to continue that method of redeeming and purchasing the public debt. Public notice was at once given that the $5,000,000 loan of 1843, bearing five per cent. interest, and redeemable on the 1st July, 1353, would be redeemed at the treasury on that day, or at an earlier period, as set out in the notice; and that interest would cease on it from and after the 1st July, 1853. The notice, marked D, accompanies this report.

The daily payments at the treasury, in discharge of the public liabilities and the redemption of said loan, did not equal the receipts. A large surplus accumulated in the treasury, and became a cause of alarm in commercial and financial circles. It was hoped that the accumulation in the treasury would exercise a beneficial restraint upon importations and speculative credit enterprises, and bring the business of the country into a safe and wholesome condition; yet, under the apprehension that a panic might arise from a too stringent operation of the treasury, it was determined to make advances to the mint for the purchase of silver for the new coinage, and to enable the mint to pay promptly and in advance of coinage for gold bullion.

The amount of money on deposit in the mint on the 4th of March was $6,098,220, and was increased by the 1st of July to $8,517,890 05, and was on the 25th of November, 1853, $11,-451,039 30. This enabled the mint to give gold, which circulated as money, for silver that was out of circulation, because of the premium upon it; and for gold bullion that could not circulate as money until coined.

It is believed that this operation tended to lessen the effect of the accumulation; but the accumulation still continuing, it was thought advisable further to lessen it by the purchase of another portion of the public debt, at the current market price, in the cities of Philadelphia and New York, as authorized by law; and an arrangement was made with a broker, at each of those places, to make such purchases, to be paid for on the assignment and delivery of the stock at the treasury. These purchases were continued until the 1st July, 1853, and ceased after that date. The amount still continuing to accumulate in the treasury, apprehensions were entertained that a contraction of discounts by the city banks of New York would result from the weekly statements required from those banks under an act of the Legislature of that State,

and, combining with the fact of the large amount in the treasury, might have an injurious influence on financial and commercial operations. With a view, therefore, to give public assurance that money would not be permitted to accumulate in the treasury, if the public debt could be had at the current market price, a public offer was made on the 30th July to redeem at the treasury, between that time and the 1st of December, the sum of $5,000,000 of the loans of 1847 and 1848, at a premium of 21 per cent., and interest from the 1st of July, 1853, on the principal. And on the 22d August another public offer was made for $2,000,000 of the loans, payable in 1856 and 1862, the former at a premium of 8½ per cent., and the latter at a premium of 16 per cent., with like interest from the 1st July, 1853. These notices, marked E and F, accompany this report. It was thought that such a public offer for the stocks, at the then current market price, would be expedient on the part of the government, and just and fair to the holders, have a beneficial effect upon the money market, and secure a larger amount of the public debt than any other mode that could be adopted. The result has been satisfactory.

The balance of the loan of the three corporate cities of the District, assumed by Congress in 1836, being $720,000, a communication was sent to the agent of the trustees of the loan, and a price agreed and accepted, to the extent of $696,000; and it is expected that the balance will be obtained, at the same price, in a short time.

An offer was also made for part of the $5,000,000 Texan bonds, bearing 5 per cent. interest, and a purchase of some of them effected, in the manner stated in the tables. The fact is established, that the public debt of each description can be obtained at the premiums offered and paid, and that the premiums may be reduced as the time fixed by the terms of the law for redemption approaches.

The balance in the treasury on the 30th of September, with the estimated receipts for the 2d, 3d, and 4th quarters of the present fiscal year, being so far in excess of the estimated expenditures for the same time, will justify the further application of $15,000,000 to the purchase of the debt, and leave a sufficient surplus in the treasury for any practical purpose. The purchase of the debt has therefore been continued, and $7,567,495 94 expended in the purchase during the 2d quarter of the year. It is considered that the present prosperous condition of the treasury, growing out of the great prosperity of all the industrial pursuits of the country, affords an opportunity to apply the surplus to the discharge of the public debt, and that it should not be left to embarrass the operation of the government in any future contingency which may require all its energies and resources.

The estimated receipts of the second, third and fourth quarters of the present fiscal year have been predicated on the present high

price of the great staples, on a good foreign demand for our surplus, and on large duty-paying importations, computed in view of the large stock of importations on hand and the stringency in the money market both here and in England, and the effect of the short crop there.

The estimated receipts for the fiscal year 1854 do not reach the actual receipts of the fiscal year 1853, although the first quarter of 1854 exceeds the corresponding quarter of the year 1853 by $5,025,207 20.

The estimated receipts for the fiscal year ending June 30, 1855, have not the results of the first quarter to veryfy them, nor the unquestioned data of good crops and high prices; but the estimate rests upon an average of preceding years, with an estimated increase proportionate to an increasing population and capacity to purchase and pay, calculated without regard to the chances of war, short crops, commercial embarrassment, or a reduction of the tariff.

The imports of the fiscal year 1853, including specie, have been $267,978,647, and the exports have been $230,452,250. A fair estimate for profits on our exports and the freight of our vessels would cast the balance of this account in our favor, without estimating the money brought in by emigrants, of which no account is taken. It is believed that a large stock of imported merchandise remains in the hands of the merchants, and for that reason, and because of the stringency in the money market, both here and in England, it is calculated that there will be, during the remaining three quarters of the year, a diminished importation, compared with that of the first quarter.

The estimate for the fiscal year 1855 has not been made to exceed that of 1853, for the reason that it is believed that the causes of diminished importations during the latter part of the fiscal year 1854 will be extended into a part of the succeeding fiscal year, and because the agitation of a reduction of the tariff will have a tendency to prevent importations beyond the actual demand for consumption.

Most articles of manufactured merchandise, like the annual productions of agriculture, are necessarily consumed within the year, and again restored by productive industry for the succeeding year; and, with a population able to pay, there is a great uniformity in the annual amount of imports and exports. There are often causes, however, which prevent a regular and progressive increase; such as short crops, low prices for exports, either at home or abroad, without the disturbing influence of war. Still it is believed that the receipts of the fiscal year 1855 will be sufficient to meet the expenditures of the year and a reasonable purchase of the public debt, and justify a reduction of the duties by adding to the free list and reducing the tax upon many other articles of importation.

The table H, accompanying this report, exhibits the foreign articles imported free of duty, and their value, for the six years from 1848 to 1853, inclusive, and also the foreign articles imported paying duty, with their value and rate of duty, for the same time.

The table I, accompanying this report, exhibits a separate list of the foreign articles which it is hereby proposed shall be added to the free list for the purpose of reducing the revenue. The revenue collected from the articles in table I, for the last year, is about $8,000,000, in which amount, it may be computed, the revenue will be reduced, by the adoption of the proposed additional free list.

This will leave the revenue larger than a proper and economical administration of the government will require; and, for the purpose of further reduction, it is now proposed to arrange the articles paying duty in two classes — the one class contained in the table K, accompanying this report, to pay what may be considered the high duty of 100 per cent., and the other class to pay the moderate duty of 25 per cent., and to include all imported articles not in the free list nor in the table K of high duties. This equalization will reduce the revenue about $4,500.000. This still leaves the revenue computed upon the imports of 1853 at about $45,-000,000 from customs, below which point it is not proposed to reduce the duties until the public debt is paid. The change now proposed in the rate of duty is designed to take effect from and after the 1st January, 1855.

The effect of making the duties 25 per cent. on all articles imported not included in the free and higher lists, will be to give greatly less trouble in the collection of the revenue, and to raise the duties on some articles and reduce them on others. When the duties are raised, the change may act in restraint of importation, and, when reduced, in their favor; and the one result, to some extent, will counteract the other. The proposed reduction, had it been applied during the last year, would leave an abundant revenue for all the reasonable wants of the government in time of peace, and allow the proper addition to the army and navy to meet the exigencies of an augmenting population and an increasing commerce, and leave the receipts from the sale of public lands to be applied to the purchase of the public debt, to which these proceeds are pledged by law.

It is not proposed to enter into any extended argument to prove that the articles in table I should be added to the free list, nor to prove the propriety of the proposed reduction of duties to the uniform standard of 25 per cent. When revenue is not needed, articles of general use for manufacturing and other purposes, not the growth or production of the United States, or but partially so, should not be taxed; and no higher taxes should be levied on other importations than may be necessary for the economical wants of

the government, thus leaving commerce as free and unrestricted as possible. Let the tariff be reduced as Congress, in view of the present wants of the government, shall deem best, the increasing population, production, industry, and enterprise of the nation will still necessarily add to the importations, and consequently to the revenue, what shall be needed for increased expenses.

The tables accompanying this report exhibit the free lists of England, France, Belgium, Portugal, Brazil, Austria, Spain, Russia, Cuba, the Zoll-Verein, Chili, Netherlands, Hanse Towns, Norway, Mexico and Sweden, and mark the progress of free trade among commercial nations. Unrestricted commerce, binding the nations of the earth in stronger bonds of peace by mutual benefits, has numerous and increasing advocates in this and other commercial countries. The principle of free trade may not yet be sufficiently verified from experience, in this and other nations, to justify its full adoption, but the progress towards free trade, now proposed, will be justified, it is believed, by both public opinion and public interest. It is considered that the taking off the duty on the raw material used in our manufactories will counteract the reduction of duties on foreign manufactures, and, when compared with the operations of the present tariff, will not materially affect the interests of domestic industry or commerce.

It is not proposed to change the principle of *ad valorem* duties, but it is for the consideration of Congress, whether a specific duty on iron, made from the average of the last three or four years' *ad valorem* duties, might not give greater stability to the iron business, and more satisfaction to consumers, and, at the same time, prove equally beneficial to the revenue.

It is proposed to make salt free of duty. The average annual revenue from that article, for the five years to 30th June, 1852, is only $232,284, while the annual fishing bounties, exclusive of the drawback on pickled fish, for which the salt duty is a pretext, amount to $289,413, besides other heavy annual expenses to prevent frauds. A report upon the subject of the fishing bounties, from J. Ross Browne, with its references, is herewith submitted. For the reasons stated in that report it is recommended that the fishing bounty be repealed, and that branch of industry be left to the fair competition which causes other maritime enterprises to flourish.

The table of imports and exports for the fiscal year ending June 30, 1853, accompanying this report, and heretofore mentioned, compares favorably with those of preceding years, and marks our increasing capacity for commercial intercourse. The table of tonnage, which also accompanies this report, shows that our tonnage is now 4,407,010 tons, and exceeds that of any preceding year by 268,000 tons. These tables prove that we enjoy a prosperous commerce, with an increasing capacity to extend it.

The table exhibiting the operations of the mint also accompanies this report. It shows the entire coinage to 31st October last to have been $370,008,192 50; the gold coinage, from the 1st of January to the 31st October of the year 1853, to have been $46,998,945 60, and the silver coinage $6,996,225, and proves an active and growing demand for gold and silver as a currency for actual use, whilst the imports of gold and silver, including what is brought to the Atlantic from California, without estimating for that brought in by emigrants, compared with the exports of gold and silver, prove that, within four years, the large amount of $135,972,095 73 has been added to the gold and silver coin remaining in the country. Should this increase continue for but a short term of years, this country will be able to dispense with banks of issue, and their attendant evils, and have the gold and silver currency contemplated by the constitution. The operations of the mint and its branches for the past year show a very favorable result, and the recoinage of silver has, in many places, removed the inconvenience arising from small bank notes and want of change. It may reasonably be expected that the supply, in the course of a few years, will be ample, and extended to every section of the country.

The following is a table of the articles proposed to be placed on the free list by she Secretary of the Treasury.

TABLE I. FREE LIST.

Acids—Benzoic, Voracic, Citric and Tartaric, Aloes, Alum, Amber. Ambergris, Alcornogue, Annato Rancor or Orleans.
Angora, Thibet, and other Goat's Hair or Mohair, manufactured.
Animals, Living.
Anniseed.
Antimony. Crude and Regulus of.
Argol or Crude Tartar.
Arrow Root.
Arsenic.
Assa foetida.
Animal Carbon, and all substances used exclusively for manures.
Bananas.
Barks used for medicines, dyeing, tanning, or other purposes.
Barytes, Sulphate of.
Barilla or Soda Ash.
Bells when old, and Bell Metal fit only to be remanufactured.
Berries, Nuts, and Vegetables, used exclusively in Dyeing or in composing Dyes: but no article shall be classed as such that has undergone any manufacture.
Berries, Flowers, and Barks.
Bismuth.
Bitter Apples.
Bleaching Powder or Chloride of Lime.
Blue or Roman Vitriol, or Sulphate of Copper.
Bolting Cloths.
Borax.
Boucha Leaves.
Books, Magazines, Periodicals, Pamphlets, and illuminated Newspapers, bound or unbound, being editions printed prior to the year 1830.
Brass in bars, pigs, plates or sheets.
Brass, when old and fit only to be remanufactured.
Brazil Paste.
Brazil Wood, Brazillette, and all other Dye Woods in stick.
Breccia.
Brimstone, unrefined or in rolls.
Bronze Liquor.
Bronze Powder.
Burgundy Pitch.
Burrstones, wrought or unwrought.
Cadmium.
Calamine.
Calomel, and other mercurial preparations.
Cameos and Mosaics and imitations thereof not set.
Camphor, crude.
Cantharides.

Table I. Free List.—Continued.

Cassia Buds.
Castorum.
Chalk.
Chronometers, box or ship, and parts thereof.
Clay, wrought and unwrought.
Cobalt.
Cochineal.
Cocoa and Cocoa Shells.
Cocoa Nuts.
Cordilla or Hemp of Tow or Flax.
Coffee, from whatever country imported.
Copper, in pigs, bars, plates or sheets.
Copper, when old and fit only to be re-manufactured.
Copper, for sheathing of vessels.
Copperas or Green Vitrol, or Sulphate of Iron.
Cork Tree Bark, unmanufactured.
Cream of Tartar.
Cubebs.
Cudbear.
Diamonds, Glazier's, set or not set.
Diamonds, Gems, Pearls, Rubies, and other precious stones and imitations thereof; compositions of glass, Paste, &c., set or not set.
Dragon's Blood.
Dried Pulp.
Earthen and Stone Ware.
Emery in lump, not subrenized.
Engravings, Etchings, or Plates, bound or unbound.
Extract of Indigo.
Extract and Decoctions of.
Logwood and other Dyewoods.
Extract of Madder.
Flaxseed.
Flints.
Fruit, green, ripe, dried, pressed, or picked.
Fuller's Earth.
Furs, dressed or undressed, when on the skin.
Furs, Hatter's, dressed or undressed, not on the skin.
Gamboge.
Ginger, green, ripe, pressed, or preserved.
Gold beaters' Skins.
Gold and Silver Leaf.
Green Turtle.
Gum, Arabic.
Gum, Barbary.
Gum, East India.
Gum, Jedda.
Gum, Senegal.
Gum, substitute, or Burnt Starch.
Gum Tragacanth.
Gutta Percha, unmanufactured.
Hair of all kinds, unclean and unmanufactured.
Horns, Horn Tips, Bones, Bone Tips, and Teeth, unmanufactured.
India Rubber, in bottles, slags or sheets, unmanufactured.
India Rubber, milk of.
Indigo.
Ipecacuanha.
Iridium.
Iris, or Orris Root.
Ivory, unmanufactured.
Ivory Nuts, or Vegetable Ivory.
Jalap.
Kelp.
Kermes.
Lac Dye.
Lac Spirits.
Lastings, suitable for shoes, slippers, boots, bootees, or buttons, exclusively.
Leeches.
Lemons.
Lemon Juce.
Limes.
Lime Juce.
Linens, bleached or unbleached.
Linseed.
Liquorice Root.
Litharge.
Madder, ground, and Madder Root.
Manganese.
Manna.
Manufactures of Mohair Cloth, Silk Twist, or other manufactures of cloth suitable for manufacture of shoes, slippers, boots, bootees, or buttons, exclusively.
Maps and Charts.
Marble, in the rough, slab, or block, manufactured.
Marble, manufactures of.
Marine Coal, manufactured.
Medical Roots, Leaves, Gums and Resins, in a crude state.
Mineral Blue.
Moss, and other vegetable substances used for mattresses.
Music and Music Paper, with lines, bound or unbound.
Natron.
Nickel.
Nutgalls.
Nux Vomica.
Ochres and Ochrey, earths used in the composition of painters' colors, whether dry or ground in oil.
Oils— Palm, Cocoanut and Olive.'
Olive, when pure, and not otherwise.
Opium.
Oranges.
Orange and Lemon Peel.
Orpiment.
Osier, or Willow, for basket-makers' use, prepared or unprepared.
Palm Leaf, unmanufactured.

TABLE I. FREE LIST.—Continued.

Paving Stones, Paving and Roofing Tiles and Bricks.
Patent Mordant.
Pearls, set or not set, and Mother of Pearl.
Pewter, when old, and fit only to be remanufactured.
Pineapples.
Plantains.
Polishing Stones.
Pumice and Pumice Stones.
Quicksilver.
Rags, of whatever material.
Rattans or Reeds unmanufactured.
Rhubarb.
Rotten Stone.
Red and white Lead.
Saffron and Saffron Cake.
Sago.
Sal. Ammoniac.
Salt of all kinds.
Salts, Epsom, Glauber and Rochelle.
Saltpetre or Nitrate of Soda or Potash, refined or crude.
Sarsaparilla.
Seedlac.
Shaddocks.
Sheathing Paper.
Shellac.
Silk, raw, not more advanced in manufacture than singles, train or organzine.
Seeds, namely Hempseed, Grass, Rapeseed, Mustard, Clover, Canary, Cardannum, Cammin, Caraway, Coriander, and seeds of all kinds used for Agricultural, Medicinal, Horticultural and Manufacturing purposes.
Slates and Slate Pencils.
Smalts.
Skins and Hides, raw of all kinds, whether dried, salted or pickled.
Spices of all kinds.
Sponges.
Spunk.
Squills.
Steel in bars, Cast, Shear or German.
Sugar of Lead.
Sumac.
Tallow, Marrow, and all other Grease and Soap Stock and Soap Stuffs.
Tapioca.
Tea, from whatever country imported.
Terne Tin Plates.
Terra Japonica or Catecha.
Tin Foil.
Tin, in Plates or Sheets.
Tin Plates, Galvanized.
Tin, in pigs, bars or blocks.
Tortoise and other Shells, unmanufactured.
Tumeric.
Type Metals and Old Type fit only to be remanufactured.
Vanilla Beans.
Watches and parts of Watches.
Waste or Shoddy.
Weld.
Whiting or Paris White.
Wines of all kinds, except Champagne, imitations of Wines, and adulterated Wines.
Woad and Pastel.
Woods, namely: Cedar, Lignum Vitae, Ebony, Box, Granadilla, Mahogany, Rosewood, Satin Wood, and all Cabinet Woods, unmanufactured, and Fire Wood.
Wool, costing less than 10 c. per lb.
Yarns.
Zinc, Spelter, or Tenteneque, in sheets, or pigs.

COMMERCIAL RECORD.

December 15, 1853.

Though the rivers have remained low since our last report, receipts of produce, especially of cereals, have been large for the season; and prices varying but slightly from quotations on 15th ultimo.

FLOUR. — On the 15th ult. we quoted sales superfine and extra brands at $5.75 to $6.18 per bbl. Within a day or two after, a slight decline occurred, and superfine sold on the 17th at $5.50 to $5.60 per bbl. Since then prices have remained tolerably uniform, and we now quote country superfine at $5.37½ to $5.40 p. bbl.; extra $5.62½ to $5.75 per barrel.

At *New York*—prices quoted to-day by telegraph: Ohio $6.87 to $7.00, Southern $7.00 to $7.12 per bbl; and at Liverpool, on the 3d inst.: Western Canal at 34*s* 6*d*, Ohio 35*s* 6*d* per bbls, a slight decline since the 30th ultimo.

WHEAT.—There was also a slight decline in the price of wheat in this market, about the 17th of November, but prices advanced again before the close of the month, and continued with but little variation until the present date. Sales of good red and white are reported to-day at $1.10 to $1.16 per bushel.

At *New York*, sales are reported to-day of red Pennsylvania wheat at $1.61 per bushel buoyant.

At *Liverpool*, on the 29th ult., sales of white wheat at 10*s* to 10*s* 6*d*; red and mixed 9*s* 4*d* to 9*s* 10*d*.

At *Chicago*, on the 13th inst., sales of spring wheat at 90 cts., and of prime winter at $1.05.

We have observed that the prices of wheat at St. Louis, during the season, have ruled from 5 to 10 per cent. above the prices at Chicago. This is not a new feature in the trade of these two cities. By comparing the prices of wheat at Chicago and St. Louis for each month, in 1852, we find that the average price for the year, at St. Louis, was 79. 83 cents, and at Chicago 72. 75 cents per bus., and that the price at Chicago did not exceed that of St. Louis in any one month during the year except July, making the difference throughout the year within a very small fraction of 10 per cent. in favor of prices at St. Louis. Indeed, there has been but very little of the time since communication was opened between these two cities, by the canal, when the prices for wheat have not been better at St. Louis than at Chicago. In 1850, considerable quantities of flour came to this market even from Milwaukie. We have frequently taken notice of these facts, and recur to them again, for the purpose of correcting a false notion, which very generally prevails in almost every part of the United States, that not only the wheat produced in the valley of the Illinois, but a large part of that grown in the region of the Upper Mississippi is shipped to Chicago.

The South is the natural market for the breadstuffs produced on the Upper Mississippi and its tributaries, and, except in extraordinary cases, no improvement that can be made in the mode of transportation, will divert them to a northern or eastern market.

CORN.—Prices have varied but slightly during the month: sales to-day at 40 to 43 cents per bushel, sacks included. At *New-Orleans*, last advices quote old at 64 to 65 cents per bushel. At *New York*, sales to-day, yellow at 82 cents, buoyant. At *Liverpool*, November 29th, Indian corn, white, quoted at 46*s* to 46*s* 6*d* per quarter, dates of 3d inst. report sales at previous rates.

Though the price is comparatively high, there has been but little movement in corn during the present season. The high rate

of freights leaves little or no margin to dealers, and from a view of the home and foreign demand, we conclude that prices at this market must recede before any considerable movement can take place in this article.

Tobacco and Hemp.—But little can be said of these articles at this season of the year; there is but very little of either on the market, and the high rate of freights coastwise and to Europe, is operating adversely to the interest of holders. We quote hemp at $122 to $128 per ton as in quality.

Lead.—Receipts have been large for the season, and prices have declined slightly since our last report. Sales to-day, small lots, soft, at $6.35.

Hay. — The price of this article has ranged at about 75 cents per 100 lbs. during the month; the last advices from N. Orleans quote Timothy at $20 per tun.

Hogs & Pork.—The number slaughtered in this market has been very limited. The first slaughtered this season was a lot of 300 head, on the opposite side of the river, on the 14th November. The weather being unfavorable, the work did not commence in the city until about the 24th. The number of hogs killed, up to the present time, is supposed not to exceed 10,000 head. The ruling price has been $4.00 per hundred pounds. Higher prices have, however, been paid for the better qualities, and we believe $4.50 has been given for hogs of extra size. But $4.25 may, at this time, be regarded as the limit for the best quality.

A correct opinion cannot be formed at present as to the extent of the crop, nor in respect to the price of meats, during the ensuing year. Mess pork has declined about $1.50 per barrel in New York within the last month; sales of mess, on the 13th inst., at $13.50 per barrel. A slight decline had also taken place in England at last dates. The high price of meats for several years past has induced the planters of the South to pay more attention to their stock, and hence the demand in that quarter will be greatly reduced, and should the crop of the Ohio valley be as large as it is now believed to be, we conclude that the price of meats must rule low during the ensuing year. In this market, mess pork is quoted nominally at $10.50 to $11.00 per barrel, no sales.

Cattle.—Prices for beef cattle have been high with little variation, during the month. Sales at $4.75 to $5.75 per 100 lbs., as in quality. The demand for California has greatly reduced the stock of the West, and comparatively high prices for beef may be expected to continue for several years.

Salt.—The stock of Ground Allum salt is said to be exhausted in market. It is quoted, however, at $2.10 per sack. Turks Island and Kenhawa in fair supply, the former at $1.45 per sack, and the latter at 68 cents per bushel.

Sugar. — The result of the crop is not sufficiently known to authorize an opinion in respect to prices for next season. The probabilities are however in favor of moderate prices. Considerable quantities have been purchased here for the Chicago market, during the last month. Sales to-day at $3\frac{3}{4}$ to $4\frac{1}{4}$ cents. Best New Orleans offering at $4\frac{1}{4}$ to $4\frac{1}{2}$ cents per pound.

Coffee. — There has been an advance of from one to one and a half cents per pound in this article within the last month; it is now quoted at 12 to $12\frac{1}{2}$ cents, and for strictly prime in store at $12\frac{1}{2}$ to 13 cents per pound. The following table will show that, notwithstanding the low stage of water, the receipts of produce have been liberal for the season.

Imports of leading articles at St. Louis from 16th November to 15th December, 1853, inclusive:

Flour, bbls	32,181	Salt, sacks	18,296
Wheat, sacks	147,275	" bbls.	4,095
" bbls.	2,161	Sugar, hogsheads	4,386
Corn, sacks	30,101	" bbls	2,045
Oats, sacks	72,635	" boxes	595
Lead, pigs	37,086	Molasses, bbls	6,325
Tobacco, hhds.	20	Coffee, sacks	7,459
" boxes	553		

Freights.—At the date of our last report we quoted freight to New Orleans on flour 50 cents, pork $87\frac{1}{2}$ cents; whisky $1.00 per barrel; corn 40 cents per sack, and other descriptions of produce at 35 to 40 cents per 100 lbs. On the 16th of November an advance was obtained by the boats, and the following rates were established: flour 75 cents; pork $1.00; whisky $1.25 per barrel; corn 50 cents per sack. On the 28th November, a decline took place, and flour was taken at 60 cents; pork at 88 cents, and whisky at $1.00 per barrel. On the 5th instant a further decline took place; flour went to 50 cents; pork to 70 cents, whisky to 85 cents per barrel, and corn to 35 cents per sack. The latter may now be quoted as the ruling rates.

Coastwise freights.—The New Orleans "Price Current" of the 3d instant quotes freights to New York as follows: tobacco $8.00 to $9.50 per hogshead; pork $1.25 per barrel; wheat and corn 20 cents per bushel; lead $1.50 per ton; hemp $22.00 to $25.00 per ton.

The Money Market remains in about the same condition as at the date of our last report, and no important improvement can be expected before the opening of the spring business, though the improvement at the East will doubtless be felt by the merchants here during the winter. Sight exchange on the eastern cities continues at $\frac{1}{2}$ per cent. premium, and at par on New Orleans.

The New York banks, after contracting their loans at the rate of more than $1,000,000 a week, from the 6th of August to the 12th of November suddenly changed their stringent policy, and since that date their loans have been increasing at the rate of about $1,000,000 per week. The great influence which these banks exert over the commerce and finance of the country, makes it necessary that all merchants, and others extensively engaged in business, should observe their movements. The following weekly statement will help to explain the financial history of the current year.

Weekly Reports of the New York City Banks.

	Loans.	Specie.	Circulation.	Deposits
Feb. 26...	$95,274,376	$8,991,630	$9,274,025	$57,556,507
June 11...	95,520,656	12,174,500	9,684,106	59,073,171
Aug. 6...	97,899,617	9,746,450	9,510,465	60,994,568
Aug. 13...	95,562,277	10,654,818	9,451,945	53,166,718
Aug. 20...	93,148,396	11,092,552	9,414,636	56,817,818
Aug. 27...	92,386,053	11,319,047	9,427,191	57,431,703
Sept. 3...	91,741,338	11,268,049	9,554,294	57,502,960
Sept. 10...	91,108,347	11,380,694	9,596,316	57,545,164
Sept. 17...	90,190,589	11,860,235	9,566,723	57,612,301
Sept. 24...	90,092,765	11,340,925	9,477,541	58,312,334
Oct. 1...	90,149,540	11,231,912	9,521,665	57,968,631
Oct. 8...	89,123,998	10,286,602	9,673,458	57,985,760
Oct. 15...	87,837,273	11,330,172	9,464,714	56,068,674
Oct. 22...	85,371,981	10,303,254	9,388,543	55,748,729
Oct. 29...	83,400,321	10,866,672	9,300,350	53,335,462
Nov. 5...	83,092,630	11,771,880	9,492,158	55,500,977
Nov. 12...	82,802,409	12,823,575	9,287,629	56,201,007
Nov. 19...	83,717,622	13,691,324	9,151,443	57,446,424
Nov. 25...	84,805,530	13,349,196	9,932,769	58,672,076
Dec. 3...	85,824,756	12,830,772	9,133,586	58,435,207

The receipts of gold from California have been large since September, but the exports of the precious metals have been about equal to the receipts. In October, the exports amounted to $4,757,972, against $4,327,000 received from California. The exports in November amounted to $3,855,775, against $809,813 exported in the same month of 1852. And from the 1st to the 10th instant, the shipments of specie amounted to $2,336,580. The increase in the export of specie at this particular season is owing chiefly to the backwardness of the cotton crop in coming to

market. The accounts made up at New York, on the 15th inst., exhibiting the receipts of cotton at all the ports, from 1st of September to the latest dates, show a total of 588,733 bales, being a decrease of 526,872 bales as compared with the same time in '52, and the shipment of 228,358 bales against 466,287 bales up to same date last year. The delay of the cotton crop in going to market is attributed chiefly to the low stage of water in the southern rivers. Had the shipment of cotton been as large this season as last, it is probable that the exports of specie would by this time have ceased entirely. The crop is variously estimated from 2,800,000 to 3,000,000 bales. Belmont & Co., in their circular of 15th instant, adopt the following table of prices, according to the New York classification.

	Upland.	Florida.	Mobile.	N. O. & Texas.
Ordinary.....	7¾	7¾	7¾	7¾
Middling.....	10¼	10¼	10½	10¾
Middling fair..	11	11	11½	11¼
Fair.....	11⅜	11½	11¾	12¼

Should these prices continue until the close of the cotton season, the proceeds of the crop may be estimated at about $130,000,000, which in connection with a fair export demand for breadstuffs, and the California gold crop, show a broad basis for the business of the ensuing year. The stock market at New York is firm, with some improvement in the demand for railroad bonds &c. on foreign account, and should the war in Europe be confined to Turky and Russia, there is a fair prospect that money will be more easily obtained for the purposes of internal improvement during 1854, than it has been since the early part of the current year.

JOURNAL OF PUBLIC IMPROVEMENTS.

Weston and St. Louis Railroad, and North Missouri Railroad.

We learn from our exchanges that a lively interest is manifested in the western counties, north of the Missouri river, in respect to the construction of a railroad from Weston, through the river counties, to some point on the North Missouri Railroad, in Callaway county.

A spirited meeting was held at Liberty, on the 5th instant, by which the following resolutions were adopted:

"1. That we deem it practicable to build said road.

2. That Clay county will cordially co-operate with Platte, Ray, Carroll, Chariton, Howard, Boone and Callaway counties in building said road.

3. That all the counties interested in said road are hereby respectfully requested to hold county meetings, and express their views in relation to the scheme.

4. That said proposed road be designated the "Weston and St. Louis Railroad."

5. That a committee of three persons be now appointed by the chair to correspond with similar committees, if such be raised by the other counties, in reference to all the particulars connected with said improvement, and especially in reference to the designating a time and place for a general meeting of all the counties in general convention.

6. That we recommend Brunswick as a suitable as well as central point of holding said convention.

7. That the Chair appoint ten delegates to attend said convention, whenever and wherever held.

8. That a committee of five persons be now appointed to prepare an accurate account of the value of landed and other property in Clay county, as well as to ascertain as near as possible, how much individual stock will be taken in said road by citizens of Clay county."

We have long regarded the Weston and St. Louis Railroad as a legitimate branch of the Missouri system of public improvements —the only question left open being one of time. This question must be settled by the people along the route, and we shall rejoice if upon further consultation they should conclude that the time for commencing the work has arrived.

The counties through which it is proposed to build the road are rich in all the resources required for the consummation of the enterprise: productive soil, wealth, talent and moral respectability.

The project is a good one; and can certainly be accomplished in a reasonable time by a community possessing so many elements of social power.

In connexion with this subject, we beg to make a few suggestions touching the location of the North Missouri railroad. When we first proposed that project, we imagined that a railroad located on the ridge dividing the waters of the Mississippi from those flowing into the Missouri connected with plank roads as feeders, would constitute a system which would afford all the commercial and traveling facilities that would be required in the north-eastern part of the State. But we are now convinced that, instead of plankroad feeders, the line commencing at St. Charles must have from three to four branches before reaching the northern boundary of the State. First, the branch to Weston; second, one in the direction of Council Bluffs; and third, a bifurcation at a point where the eastern prong will make the shortest route to St. Paul, and the western the shortest line to Fort Desmoines.

Hence, we regard it as the true policy of the North Missouri Railroad Company to locate their road as nearly on an air line to Fort Desmoines as a reasonable regard to the character of the ground will allow. For if it should follow the dividing ridge to the State line, a shorter route will, in time, be opened to Fort Desmoines, and the ridge route will cease to subserve the purposes of a great trunk line, and become a local road with more important roads on each side of it. It is obvious that St. Louis must have a connection, by railroad, with the eastern counties of Iowa; and the nearer the North Missouri Railroad can be made to approach an air line from St. Charles to Fort Desmoines, the more certainly will it secure the business of the eastern and central portions of Iowa and Minnesota. Whether the charter authorizes the company to depart from the dividing ridge so far as to enable them to adopt an air line from St. Charles to Fort Desmoines, is a question which we have not examined. But if the charter should not give the authority, it would be better to wait until the meeting of the legislature than to commence on a system that will require to be changed before it is completed.

RAILROAD CONVENTION AT BENTON, MO.

PROCEEDINGS OF THE RAILROAD CONVENTION, HELD AT BENTON, IN SCOTT COUNTY, MISSOURI, ON THE 14TH AND 15TH OF NOVEMBER, 1853.

Monday, Nov. 14, 1853.

Pursuant to a call for a Convention, by the Committee appointed at the mass meeting in Madison county, on the 5th day of September last, addressed to the South Eastern counties of this State, and to Kentucky, Tennessee, and other Southern States, and appointing Benton, in Scott county, and the Second Monday in November, as the time and place for said Convention, the delegates from the States of Kentucky and Tennessee, and the counties of Scott, Mississippi, New Madrid and Stoddard met at the Court-House in Benton, on the 14th day of November, and Madison county, upon whose call they had assembled, being unrepresented, proceeded to organize by appointing Col. ABRAHAM HUNTER, of Scott county, President; Geo. WHITCOMB, of Mississippi county, and M. A. WILSON, of Stoddard county, Secretaries.

The call for the convention having been read the following delegates were reported present:

From Scott county:—Abraham Hunter, Felix G. Allen, A. S. Henderson, Asa Foster, Isaac Hunter, Elijah Denton, John Barnes, Chas. H. Kem, A. Waugh, Jr., Benj. Benefield, James A. Powell, P. E. Ancell, H. Winchester, Daniel Houk, Francis Hiring.

From Stoddard county:—Henry Miller, Wm. H. Whitehead, James Nations, Solomon G. Kitchen, Daniel B. Miller, Isaac Bran, M. A. Wilson.

From Mississippi county:—Noah Handy, Shelby Sheeks, B. J. Moore, J. W. Glasscock, James L. Moor, Levi H. Molder, E. D. Bigger, Geo. Whitcomb.

From New Madrid county:—Robert A. Hatcher.

From Hickman county, Ky.:—E. J. Bullock, James M. Moore, C. Brite, Robert R. Walker, John G. Ramsey, R. N. Lester.

From Fulton county, Ky.:—E. B. Fuqua, W. B. Wilson, J. D. Winter, Frank Roulhac.

From Obion county, Tenn.:—Geo. W. Gibbs, S. A. Warner.

Gen. Gibbs, of Tennessee, introduced resolutions for the consideration of the convention. After some discussion Col. Bullock, of Ky., offered a substitute for the same, pending the discussion Gen. Gibbs made a motion to adjourn to the 4th Monday in January next, which was lost—Ayes 8; Noes 31.

The substitute of Col. Bullock, and the resolutions of Gen. Gibbs were both withdrawn, and the convention adjourned to nine o'clock to-morrow morning.

Tuesday, Nov. 15th, 1853.

The Convention was called to order by the President.

Geo. Whitcomb, of Mississippi county, introduced the following resolutions, which were unanimously adopted:

Resolved, That we regard the Cairo and Fulton Road, and its extension through Texas, and to the Pacific, as being of vital importance to South Eastern Missouri, to Kentucky, Tennessee and South Eastern States, and that we believe the route from the Arkansas line, via Bloomfield, in Stoddard county, thence in nearly a direct line to Cairo, to be the best route for the same, and perfectly practicable.

Resolved, That we regard the extension of the Iron Mountain Road to the Mississippi river so as to form a connection with the Mobile and Charleston Roads, to be equally as important to the Southern States, east of the Mississippi river, by connecting them with the great mineral region of Southeast Missouri, and the hemp, tobocco, wheat and stock country of upper Missouri and Iowa, and by affording facilities to Missouri to transport her products to market without being dependent upon the high or low waters of the rivers, or impeded by the ice.

Resolved, That we believe it will be a saving of time and money, and afford additional facilities for business, to connect the Iron Mountain Road with the Cairo and Fulton Road, at the nearest practicable point, and running the same road to some point near Charleston, in Mississippi county, and from thence make a branch to connect with the Mobile road, at Columbus, and also with the Nashville road at Hickman.

Resolved, That we heartily approve of the energy displayed by the citizens of Stoddard county, in their efforts to cause surveys to be made and to secure the lands donated by Congress for making the road through their county, and would say to the other counties interested in the matter, "*go and do likewise.*"

Resolved, That we, the delegates from Stoddard, Scott and Mississippi, do pledge our respective counties, that we will make the local work through the same, and we, the delegates from Kentucky, pledge ourselves and those we represent, that we will assist the said counties in making the local work of the roads running to our respective points.

Resolved, That as Congress has donated the swamp lands in Southeast Missouri to the State, and the State having transferred the same to the counties, we do hereby recommend that the said counties grant alternate sections to the said roads upon the same terms and conditions prescribed by Congress in the grant to the Cairo and Fulton Road, believing that such grant would materially hasten the reclamation of said lands, as contemplated by the act of donation.

Resolved, That we deeply regret that the counties between here

and the Iron Mountain, and particularly the county of Madison, (upon whose call we have assembled here) have failed to meet us in convention, and we trust that hereafter they will be found with us, ready and willing to put their shoulders to the wheel and help on the great works so important both to them and to us.

Resolved, That we believe it of great importance to have a survey made from the Arkansas line, via Bloomfield, to the Mississippi river on the Cairo and Fulton route; and also to the terminus of the Mobile road at Columbus and to Hickman in Kentucky.

After an agreement among the delegates in regard to the several surveys, the following resolution, by W. B. Wilson, of Kentucky, was adopted.

Resolved, That the newspapers in the cities of St. Louis, Cape Girardeau and Little Rock, and the towns of New Madrid, Ste. Genevieve and Hickman be requested to publish our proceedings, and that copies thereof be forwarded to the Senators from Missouri, Kentucky and Tennessee, and also to the Hon. SAM. CARUTHERS, LYNN BOYD, B. E. GREY, and E. ETHRIDGE, members of Congress from Missouri, Kentucky and Tennessee.

S. A. Warner, of Tennessee, addressed the convention, stating that so far as local points were concerned he took no part, but that Tennessee was, and would be found doing her part in making the great thoroughfares of the South and West.

On motion of Col. Bullock, of Kentucky, the thanks of the convention were unanimously tendered to the President for the able and prompt discharge of his duties.

On motion of Dr. Ramsey the convention adjourned.

A. HUNTER, President.

GEO. WHITCOMB, M. A. WILSON, } Secretaries.

After the Convention adjourned a company was organized under the General Railroad Law of this State, called the "Columbia and Iron Mountain Branch of the Cairo and Futlon Railroad," to use the same track from Charleston to some suitable point of divergence to the Iron Mountain. The company was organized by choosing.

Col. A. Hunter, of Scott county, President.
E. J. Bullock, of Kentucky,
S. G. Kitchen, of Stoddard co.
Jas. Nations, of Stoddard co.
Geo. Whitcomb, of Miss. co. } Directors.
A. S. Henderson, of Scott co.
John Barnes, of Scott co.
A. Hunter, of Scott co.
Cha's. D. Cook, of Scott county, Treasurer
A. Waugh, jr., of Scott county, Secretary.

[From the Lacon Illinois Gazette.]

Fort Wayne, Lacon and Platte Valley Airline Railroad.

It is with feelings of no ordinary pleasure, that we are permitted to announce that at the meeting of the Directors of the several divisions of this great railway project, held in Lacon, on Thursday last, *contracts were entered into for the construction of the whole line, by one of the most responsible companies in the United States!*

The last week will long be remembered by the citizens of our town — remembered as a landmark in the history of our growth and prosperity. Prominent railroad gentlemen from five different States were in attendance, drawn together by the deep interest felt, east and west, in the construction of this great central highway, which is, at no distant day, to be an important link in the magnificent railroad which will stretch from the Atlantic to the Pacific ocean. Three companies were represented, each by a distinguished gentleman, to wit: Messrs. Buckingham, Love & Co., of Ohio, Bailey, Broad & Co., of Pennsylvania, and Burt & Co., of Ohio and New York—all companies of great strength and responsibility; the latter company was the successful applicants, who are to commence the work within ninety days from contract; and to be completed within the following periods, namely: From Fort Wayne to Rochester in twenty months; from Chicago and Mississippi R. R. to Illinois Central R. R. in eighteen months; and from Ills. Central R. R. to Lacon in nine months. From New Boston to the intersection of the Military Tract R. R. in twenty-four months; from the Mississippi forty miles west, and from Council Bluffs east forty miles, in twenty-four months — the Indiana and Illinois divisions to be completed in four and a half years, and the whole line in five years — the contractors to have the use of the road until completed.

The terms of the contract are regarded by men of large railroad experience, as favorable; and no doubt is entertained but that the work will be entered upon at an early day, and progress with all practicable despatch to completion. The company agree to pay to the contractors, one-third cash, one-third bonds, and one-third stock.

PACIFIC RAILROAD CONVENTION.

At a convention of a large number of delegates from the States of Pennsylvania, Ohio, Indiana, Illinois and Iowa, held pursuant to previous notice, at the Court House in Lacon, Illinois, on the 11th and 12th of November, the Hon. Lott S. Bayliss, of Indiana, was chosen President; G. W. Bailey, of Pennsylvania; G.

Buckingham, of Ohio; W. C. Barnet, of Indiana; Silas Ramsey, of Illinois; and Judge Jemison, of Iowa; were chosen Vice Presidents; and Thos. Tigar, of Indiana; and Wm. L. Toole, of Iowa; Secretaries.

The President, on taking the chair, announced to the convention the object for which it had convened, viz: to promote and advance the grand enterprise of constructing a Railway to the Pacific; and in some brief and eloquent remarks, urged the necessity of immediate action on the subject.

Col. Sam. R. Curtis was then called upon, and addressed the convention at much length. He advocated the Platte Valley and South Pass route; spoke of the superior advantages of this route over that of all other proposed routes, both north and south — of its centrality, nationality, and easy adaptation to a rapid and permanent construction of a railroad. The facts and reasons presented in favor of the South Pass route were conclusive and inconvertible. The address altogether was a masterly effort, combining important information, sound logic, and patriotic and eloquent sentiment.

At the conclusion of his remarks, and at the request of the convention, he read an address in favor of the South Pass route, having been previously prepared from materials and investigations made with care, and derived from authentic sources; which report appears below.

We should take pleasure in publishing the able address of Col. Curtis, but for reasons heretofore assigned we have declined all discussions on the subject of routes until the reports of the engineers appointed to make explorations shall be made known. We copy the following resolutions to show the views of the convention in regard to the mode of raising the means, and carrying on the work.

Resolved, That the peculiar geographical position and topographical features of the Platte River Valley, South Pass and great Salt Lake region, indicating it as the route for the great National Highway—the Pacific Railroad — the Federal Government should at once appropriate such pecuniary aid as would insure its immediate commencement and completion at the earliest day; and more especially so, as individuals are ready to embark in its construction if sanctioned by that spirit of liberality and national patronage that has heretofore characterized that nation which alone stands pre-eminent as the proud champion of the rights and amelioration of the condition of the human race.

Resolved, That there should be selected from all classes and all parties of men, in this Union, a devoted, distinguished and competent directory who should be incorporated with ample powers to

secure the early construction of a great National trunk Railway, which will connect the great oceans by the most central and practical route.

Resolved, That a committee of three persons from each State represented in this Convention, be appointed to correspond on this subject with such gentlemen as they believe most likely to engage in such an enterprise, and solicit their co-operation; also to induce by correspondence or otherwise, the holding of public meetings in the various cities, villages and counties interested in the Platte Valley route.—*Lacon Ill. Gazette.*

Fort Madison, West Point, Keosauqua and Bloomfield Railroad.

We learn from the *Democratic Union* that at a meeting held at Keosauqua, on the 6th instant, the following resolutions were adopted.

Resolved, That we have full confidence in the projected railroad from Fort Madison, via West Point, Keosauqua and Bloomfield, to a junction with the North Missouri Railroad; that this Road will furnish all the Railroad facilities demanded at present by the County, and we pledge ourselves to use our best exertions to secure its construction.

Resolved, That to this end we will use our influence to secure a vote of this county in favor of a county subscription of $150,000 to aid in its construction.

The County Judge of Van Buren County has issued his proclamation ordering an election to be held on the 11th day of February, 1854, for the purpose of voting on the question of subscribing $150,000 to the capital stock of said road. Such subscription to be payable in bonds having 20 years to run, and bearing interest not exceeding the rate of 7 per cent. per annum.

[From the Democrtic Union.]

DES MOINES RIVER IMPROVEMENT.—The Contract Let for the Whole Work.

For some time past, negotiations have been pending between the Board of the Des Moines River Improvement and Mr. Henry O'Reily in connection with capitalists of New York City.

We have said nothing of this before for fear it would prove a failure; but can state that the negotiations have resulted favorably, and that the Contract is made to complete the whole work from the mouth of the river to Fort Des Moines.

The improvement is to be completed on the 1st of July, 1858—four years from the 1st of July next.

The substance of the contract is as follows: He takes the lands at thirteen hundred thousand dollars. Pay the indebtedness, estimated at fifty-five thousand dollars, and is to deposit that amount with the Register, at Ottumwa, within ninety days, or forfeit the contract, has the tolls and water rents for twenty-five years, and the State can assume the control after that time by paying him the excess of the expenditure over $1,300,000.

The work is to be done according to the plans and specification heretofore adopted.

The Register is constituted trustee, and when $30,000 worth of work is done, is to give Mr. O'Reily $30,000 worth of lands less 15 per cent. retained to secure the completion of the work.

WESTERN BORDER RAILROAD.

This is the style of a road proposed to be built through the western counties of Arkansas, and designed to connect the Missouri system of railroads with that of Texas. A convention was held at Fort Smith, on the 5th instant, by which it was resolved to memorialize Congress for a grant of land in aid of this great enterprise.

It requires no argument to prove the importance of connecting the Missouri and Texas systems of public improvement, and we feel persuaded that the proposition for a grant of land in aid of this work will receive the cordial and zealous support of the entire delegation in Congress from all the States west of the Mississippi.

The resolutions adopted by the Fort Smith Convention afford abundant evidence that, though Arkansas is behind her neighbors in building railroads, she is not deficient in either spirit or intelligence. The geographical relations of Western Arkansas and Northeastern Texas will, in time, secure to that region a system of railroads which will give them all the commercial and traveling facilities that can be reasonably desired. And we are pleased to see that this fact is beginning to be understood and appreciated. Let the friends of the Western Border Railroad persevere, our sympathies are with them.

LITERARY DEPARTMENT.

Some Thoughts on Self Intellectual Culture.

BY A MEMBER OF THE KEOKUK (IOWA) BAR.

Continued from page 140.

I have thus glanced at some of the more prominent means within the reach of nearly all for improving the mind and meliorating our condition in life; and I will now proceed to present some very general views on self culture, and the proper studies to be selected. I shall endeaver to be brief.

Grandeur of character, says some one, lies wholly in force of soul — that is to say, in force of thought and moral principle ;— force of thought measures intellectual, and force of principles moral greatness. *True greatness* does not consist in, nor is it to be determined by the accidents of birth, or pecuniary, of physical or political condition, but by the development of our moral and mental nature, by the energy and clearness and compression of our thoughts, and by the entire freedom of our faculties from slavish fear, fanaticism, bigotry and superstition. We must be morally and intellectually independent before we can completely assert the dignity of our nature, and present that sublime spectacle, a truly great and good man. The individual who rises above adversity, preserves his integrity in the bosom of temptation, firmly discharges his moral obligations, and is governed by the counsels of a sound judgment and an enlightened conscience, is an honor to his country and his race. The idea of what constitutes real greatness and exaltation of character, and of its practical necessity, ought to be deeply impressed upon the heart and soul, and it will sustain and animate us through many an anxious hour of study, and shed a rich and brilliant light along our pathway, directing our journeyings, and facilitating our researches.

By self culture I mean that information which we acquire by ourselves—that education which is not obtained in schools or colleges, or through the instrumentality of regular preceptors,—but which is the result of our own earnest and unaided efforts and study. And this is unquestionably the most solid and valuable education, whether we consider it abstractly as a portion of the mind, or contemplate it in connexion with the business and happiness of life. It being wrought out by our own labor, we more thoroughly appreciate its importance.

And knowledge is not difficult of acquirement. It is within the reach of all. But it is only by a systematic apportionment of our time, that we can make any steady and solid advancement in the acquisition of knowledge. Our endeavors must be well directed, and pursued with an unconquerable perseverance. Sudden and transient and violent effort will produce no good result. The mind

must be fixed in its determinations, energetic in its labors, and patient in its investigations, if we wish success to crown our exertions. Learning cannot be had without toiling after it. We must give our days and our nights to severe and exhausting study; we must surrender the repose of indolence, and the gratification of passion, to the self devoted and ennobling efforts of educating and disciplining the intellect and heart. We must overlook the pleasures of the present, and fix the rapt eye upon the honors of the future, if we truly desire to build up the noble fabric of the mind, until it rises "before us in its native and awful majesty, in its harmonious proportions, in its mild and celestial splendor." Let this solemn truth be engraven on every heart, that labor, severe continued, exhausting labor, can alone lead to scholarship and professional distinction. There is no royal road to learning, no imperial title by which it is held. Wealth can not purchase, power cannot command it. It is the fruit of the mind's toil. It belongs to all who will seek after it. It is Heaven's high charter of man's dignity, and it will live with him throughout eternity. And one eminently beneficial result of perseverance is, that it disciplines the mind, and it accustoms it to close and accurate reasoning. It becomes strengthened by exercise, and is enabled to prosecute its labors more earnestly and successfully. Study becomes a pleasure, and the accumulation of knowledge a passion. We witness our advancement. We feel our growing power lifting us up. We are transported with the rich and varied prospects that burst upon our view, and are thus stimulated to further and profounder research. Every new scene that opens itself upon us, every new idea that flows in upon the mind, every new image that pleases the fancy, and every high achievement that summons genius into action, but bind us closer to our studies, kindle intenser the fires of our zeal, and animate us in the enlightenment and adornment of our minds. And we may rest assured that earnest study and diligence will conquer every difficulty, and prostrate every barrier. However dark and threatening may be the clouds that surround us —however thick and discouraging the adversities that encompass us—however humble and adverse our situation in life; yet if our course is marked by a resolute purpose and an untiring energy, a ray of light will soon break in upon our path, and the obstacles that threatened to overwhelm will retire at our approach, and we will go abroad into the world, respected, beloved and honored—able to the protection of our own rights, sustained by influences, and cheered on by hopes which will never fail us. We will likewise experience in the conscious dignity of our situation, and in the moral power of our character, ample compensation for the years consumed, and the sufferings undergone in the acquirement of knowledge. Though gloom and darkness may have cast their shadows over us; though friends may have deserted us in the hour of trial; though the sickness of despair may have, at times, seized

our hearts, and chilled our hopes, yet now a broad sunshine is ours, honors strew our pathway, and power follow in our train and solicit our acceptance of their gifts.

And here, it may not, perhaps, be inappropriate or useless, to present a few observations on the necessity and importance of educated mind to every portion of our country, and the successful development of its varied resources, as also upon the general nature of knowledge, its elements and acquirements. The respectability of our towns and cities, and their claims to intelligence and to the regard and respect of our country, are all more or less interested. The proportion and harmony of our architecture, as displayed in our dwellings; the taste and elegance and adaptation of our public buildings and improvements, the value and security of property as they are influenced by a lofty tone of moral sentiment and an impartial and enlightened administration of public justice, the extent and prevalence of crime, and the consequent expense arising therefrom, and the charms and endowments that cling around the social hearth; and become a portion of every refined and cultured mind, must and will, all be affected by the amount of knowledge and the purity of morals which pervade our community. The character, scholarship and usefulness of our sons, and the virtue, public regard and happiness of our daughters have all a direct and unmeasured interest at hazard. All these commingling considerations and tender attachments which constitute domestic bliss; all these thousand and grateful associations which entwine themselves around the heart, and bind us to our firesides, all those high and holy emotions and affectionate sympathies which inspire love to God and to country; all will be ennobled or degraded, elevated or depressed, sanctified or violated, as we shall embrace and cherish and bind around us the means of instruction, in morals and government and literature and religion. Let our flourishing cities neglect these essential interests, let them repulse these efforts to redeem and elevate their character in public estimation, let them frown down with contempt, or contemplate with stupid indifference the advancement and harmonization of all useful and ornamental instruction in their midst, and they may bid farewell to all permanent growth and prosperity. Wealth will seek other channels for its accumulations, genius and refinement other seats for the revelation of their immortal glories, and the arts and sciences in their application to the business and purposes of life, and manufactories and intelligent efficient labor, will no longer consent to separate themselves from the abodes of elegant learning, sound practical philosophy and enlightened enterprise. Associations to promote education, libraries to impart and diffuse knowledge, lectures to apply and illustrate the great searching truths of philosophy and government, enterprise to bring out these social elements and public opinion to develop and sustain them, are as indispenable to the true advancement of every community,

and as inseparable from their highest interests, as are population, laws, wealth and industry themselves. These are truths, great suggestive truths, demonstrated in the history, and illustrated in the experience of every growing city and town in our republic. We ought to take home these truths, and apply them to the important position we occupy in the centre of a vast commerce and agriculture, where opulence and refinement, an immense population and commerce, and machinery in all its multiplied power, and the useful arts in all their varied application, must ultimately erect and consolidate their most extensive and magnificent empire.

Let us now very briefly examine the general nature of all human knowledge, and endeavor truly to appreciate its character and its true relations to ourselves, our interests and our duties.

The diligent pursuit of knowledge, and the impartial investigation of truth, are valuable studies, interesting to all, and consistent with, and promotive of, our true and substantial happiness. They form an essential element in the perfection of our moral constitution; and their acquirement imposes a high and solemn obligation. We cannot release ourselves from it. The mind's organization is adapted to the reception of knowledge; the mind's faculties are designed to advance us in intelligence; and truth is nothing but the ascertainment of the argument, relations and fitness of things.

One of the most striking and peculiar differences existing between man and the lower orders of creation is, that the condition of the former is either retrogressive or progressive, while that of the other is stationary. Man enters this world, helpless, ignorant, and for many years incapable of self support. He advances in general intelligence, and in the arts of life, and from thence, reaching to science, literature and language, century after century rolleth past, and we find him educated, civilized and refined; the achievements of genius around him, the institutions of religion and society springing up in simple grandeur and beautiful proportion, and social influences in all their energy and sweetness weaving their soft enchantments, and pouring abroad their thousand rays of sunshine and woe and happiness.

But the brute is a mere creature of instinct. It possesses no progressive intelligence, no reasoning powers. It soon forgets its parent, pursues its instincts, goes through its routine of existence, and dies. The succeeding generation have no more of knowledge, no more of education, no more of improvement, than the preceding one. On the morning of their first creation, the sparrow constructed its nest with the same skill, and the beaver erected his dam on the same model, that the sparrow and beaver now do. The nightingale gives forth no sweeter or more melodious notes now, than when our first parents listened to its song in the garden of Paradise. And the feathered tribe wing their flight through the air; the beasts traverse the majestic solitudes of the forest; and

the fishes sport amid the cavernous depths of ocean, in the same primitive independence, and invested with the same wild and savage attributes of character they possessed thousands of years ago. Excepting man himself, so is it through the entire range of creation : Wherever we turn our eyes, or whither we direct our steps, stationary intelligence, moral irresponsibility, creation, existence, and with them the scene is closed.

Our minds ought to be thoroughly penetrated with this fact, as so strikingly illustrative of our distinguished position in the scale of created intelligence. It turns with instruction, and admonishes us that we have obligations to answer for, and important duties to discharge; it points out our relations as social beings, our mutual dependencies and our accountability to the great Creator. It, in truth, teaches us the sublime lesson of responsibility and gratitude.

We are conscious of the possession of immortal powers; we appreciate the necessity of education and its acquirement by every means within our reach and to the highest extent within our power. We would uphold and preserve sacred the venerable institutions of religion and of learning ; we love the rich creations of sculpture, painting and poetry, and revel amid their exquisite tracery, delicious coloring and magnificent description. Our imaginations hallow the gorgeous pictures of romance; and the empire of genius and taste is consecrated ground; and if we desire to enjoy the blessings of a high civilization, perpetuate the treasures and glories of a useful and elegant literature, and secure solid and permanent happiness to ourselves, our children and our country, we must be diligent in the cultivation of knowledge, and establish and encourage and preserve those labors and associations so admirably designed to elevate and improve our moral and intellectual condition.

Man's progress springs from intellect and language; these constitute the great means of his advancement. Intellect enables us to judge—trace cause and effect—compare antecedent and consequent—discover and determine upon the adaptation of means to an end and accumulate knowledge and wisdom from observation and experience. Oral language clothes us with power to communicate our thoughts and feelings to others, and written language to transmit to posterity all our knowledge and history, and government and philosophy and religion and civilization.

An eminent English writer very forcibly and eloquently observes : "Language, at the present moment of the world's existence, may be said to bind the whole human race of uncounted millions into one gigantic rational being, whose memory reaches to the beginning of written records, and retains imperishably the events that have occurred ; where judgment, analyzing the treasures of memory, has discovered many of the sublime and unchanging laws of nature, and has built on them all the arts of life, and through

them piercing far into futurity, sees clearly events that are to come; and whose eyes and ears and observant minds are, at this moment in every corner of the earth, watching and recording new phenomena, for the purpose of still better comprehending the magnificence and beautiful order of creation, and of more worthily adorning its beneficent author." How true and sensible, and yet how beutiful and sublime the figure here presented.

Valley of the Ohio.

ITS CONQUEST AND SETTLEMENT BY AMERICANS.

BY MANN BUTLER, ESQ.,
Author of the "History of the Commonwealth of Kentucky."

Continued from page 147, vol. XI. No. 68.

LORD DUNMORE'S WAR IN 1774. BATTLE OF KENHAWA, OR POINT PLEASANT, UNDER GENERAL ANDREW LEWIS. INDIAN CHIEFS RED HAWK, SCOPPATHUS, ELLINIPISCO AND LOGAN.

The detachment under General Lewis was not as keen for peace, as either Cornstalk, or Dunmore. Nor would they stop their march, although met by a messenger from the governor, to do so. This was the last thought of the brave men, who had so gallantly penetrated into the Indian forests; they burned to avenge the depredations on the frontiers, and the blood of their fellow-soldiers in the battle of the Point.

The Indian scouts reported to the governor that Lewis' detachment, in spite of his orders, still continued their march; and the enemy began to fear that the *Long Knives*, as they called the Virginians, could not be restrained by their commander-in-chief. Upon the receipt of this intelligence, Lord Dunmore, accompanied by the Delaware chief, White Eyes, visited the Camp of Lewis, on Congo creek, near where the present town of Westfall is built, in the State of Ohio, and repeated his orders in person. They were very reluctantly obeyed, supported as they were by all the weight of the royal governor, which, at that day, was by no means small.

Never had our people enjoyed so full an opportunity of dealing an effective blow against their barbarous foes as upon the junction of the troops of Dunmore and Lewis. The latter just fresh and reinforced, after a decisive victory over the enemy; Dunmore within eighteen miles of the Indian towns on the Scioto, commanding a force when united of about two thousand men—now indeed was the time for a home stroke against a foe that had wasted the adjacent provinces with tomahawk and fire, in the most merciless manner. Yet with these outrages against the colonists unatoned

for, and the fair prospect of punishing their barbarous authors, what should have been the conduct of a governor zealous in the discharge of his official duty, can admit of little doubt. Certainly not to embrace the first offers of peace from a treacherous and unsubdued enemy; nor to postpone, on frivolous excuses, the consideration of these offers in detail, until another council, which was to be held the next year at Fort Pitt.

However, this peace gave some breathing time to our countrymen, and time has always been an element of influence in their favor. It has given us the undisputed navigation of the Mississippi, at one time denied us by Spain; the removal of the remnants of the Indian tribes, to the West of that river; the possession of Florida, Louisiana and Texas, and finally has stretched the republic from ocean to ocean.

This time of hollow and temporary peace was actively employed by the pioneers in exploring still further the vast regions of Western America. These explorations were some of them made, as we have seen before Dunmore's war, as those of Doctor Walker, Smith, Boone, Bullitt & Harrod. Another incident of singular though transitory character was the purchase made by Henderson & Co. This was a land company composed of several gentlemen of North Carolina, among whom was Col. Richard Henderson, a gentleman of high reputation in that State, and who gave his name to the company.

This company employed Daniel Boone, to explore the western country for them, as is suggested by the latest and *only authentic* biographer of the unequalled woodsman.* This is asserted to have been the fact, though they would naturally have availed themselves of his familiar knowledge of the wilderness, like our own Carson, Leroux and Aubry. In the fall of 1774, Henderson, accompanied by Col. Nathaniel Hart,† visited the Cherokees.

On this visit, Col. Henderson ascertained the disposition of the Indians to part with the lands which now principally compose the south-western portions of Tennessee and Kentucky. This mission proved so far successful, as to procure a meeting of the Cherokees, at the Sycamore shoals, in the Wataga, or Wattaugah branch of the Holston river. This meeting took place, in the spring of 1775, when a number of Indians attended, and with a fairness and liberality on the part of this private land company, worthy of the most regular government, a treaty of purchase was concluded on the 17th of March, 1775. By this treaty the *Cherokee* title to the country between the Cumberland, the mountains of the same

* Spark's Amer. Biography, new series, vol. XIII, 44. Life of Boone, by the Rev. J. M. Peck. Also: Haywood's Tennessee, 2, p. 35.

† The father of the late Nathaniel Hart, of Woodford county, Kentucky, and an uncle to Mrs. Henry Clay.

name, and the Kentucky river,* and lying south of the Ohio river, for the liberal consideration of £10,000 sterling. The title of the Cherokees had been recognized by the British officers in the treaty negotiated at Hard Labor, in 1768; and also at Lochaber, in 1770, both in South Carolina.† Thus, whatever territory west of the Kenhawa might have been acquired to the British crown, under the treaty of Fort Stanwix, in 1768, was surrendered to the Cherokees, by these treaties above alluded to. There was another treaty concluded at Watauga, which is called the *Path Deed* by Judge Haywood.‡

On the conclusion of the former treaty, by which this grand land company was established, Daniel Boone was employed by them to mark a road through the southern wilderness, by way of the Cumberland Gap to *Cantuckey*. This very item stands credited to Daniel Boone, upon the books of Henderson & Co., which have been in the author's possession.‖

These accounts seem to have been unclosed, showing a condition of no little indebtedness to the great proprietors of Transylvania by its colonists. Still this extinction of Indian title had never regularly been permitted to inure to the benefit of private persons. It had from a remote period, under the colonial government, been considered as its exclusive prerogative; and in later times, had been used by the crown only, or its representatives.

As early as 1655, Virginia enacted "that for the future no such alienations, or bargains and sales, (meaning bargains for Indian lands,) be valid without the assent of the Assembly." The same policy is manifested by an act, in 1661, declaring "that for the future *noe* Indian king, or other, shall upon any pretence alien and sell, nor *noe* English for any cause or consideration whatsoever purchase, or buy any tract or parcel of land now *claymed* or *possest* by an Indian or Indians whatsoever; all such bargains and sales hereafter made or pretended to be made, being hereby declared to be invalid, *voyd* and null." Again in 1705, the same policy is confirmed. Nor did republican Virginia abate one atom of the royal dignity and power to which she succeeded, on the vital policy of the public lands. She declared, by the twenty-first article of her first constitution of 1776, "that no purchase of lands shall be made of the Indian natives, but on behalf of the public, by authority of the General Assembly."¶

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* Cantuckey, Chenoca, or Louisa river, in the treaty here mentioned.

† In what part of that State, the author has been unable to ascertain.

‡ Civil and Political History of Tennessee, Knoxville, 1823, p. 16.

‖ It may be amusing to note the prices of several articles in these old account books. Gunpowder was charged at $2,66 per pound, and lead at 16⅔; while labor was credited at thirty-three to fifty cents per day, for ranging, hunting or working on roads.

¶ Henning, I, 396, II, 139.

Notwithstanding this clear course of colonial legislature, on the part of Virginia, and it is believed, of North Carolina, the company in question placing some reliance upon royal support for their colony, of which they had intimations from high sources of confidence,* employed Daniel Boone, their former agent with the Cherokees, "to mark a road to Cantuckey," and erect a fort. Hitherto the access to the country had been by hunters' paths and buffalo traces. In discharging this duty, "we proceeded," says the pioneer, "with all possible expedition, until we came within fifteen miles of where Boonesborough was established, on the south side of the Kentucky river, and in the present county of Madison, in the State of Kentucky. When the party of choppers and markers had reached this distance, they were fired upon by Indians, who killed two men and wounded two others. Yet, though surprised and taken at a disadvantage, we stood our ground." On the 23d of March, 1775, the party was again attacked, and lost two more men, and had three wounded; still by the 1st of April, 1775, they began to erect the fort, which was afterwards, by a just compliment, called Boonesborough. It was situated near a salt lick, about sixty yards from the Kentucky river, on its south side. Yet it is said to have been commanded from the cliffs, on the opposite side of the river, whence a ball could reach the fort. It was not, until the 14th of June, 1775, that this *first fort* of the white man was completed in Kentucky. It was about 250 feet long, by 150 broad, and consisted of block houses and the cabins of the settlers forming part of the defences.† Slight as this advance was, in the art of war, it was more than sufficient, against attacks of small arms, in the hands of such desultory warriors, as their irregular supplies necessarily rendered the Indians. They were ever more formidable in the cane brake and the woods, than before even those imperfect fortifications.† "The Indians in besieging a place are seldom seen in force upon any quarter; but dispersed, and acting individually, or in small parties. They conceal themselves in the bushes or woods, or behind trees, or stumps of trees; or waylay the path, or fields, or other places, to which their enemies resort; and when one or more can be taken down, in their opinion, they fire the gun, or let fly the arrow, aimed at the mark. If necessary, they retreat, if they dare, they advance upon their killed or crippled adversary, and take his scalp, or make him prisoner, if possible. They aim to cut off the garrison supplies, by killing the cattle; and they watch the watering places for those who go for that article of primary necessity, that they may, by these means, reduce the place to their possession; or destroy its

* Lord Mansfield is said to have given the sanction of his high authority in favor of the purchase. Granville Papers, in the possession of John Seawell Jones, of Shoe co., North Carolina.

† See Hall's Sketches, I, for a plan of the fort.

‡ Mrashall's Kentucky, 1, 42.

inhabitants in detail. In the night, they will place themselves near the fort gate, ready to sacrifice the first person who shall appear in the morning; in the day, if there be any cover, such as grass, a bush, a large clod of earth, or a stone as big as a bushel, they will avail themselves of it, to approach the first, by slipping forward on their bellies, within gun shot; and then, whosoever appears first, gets the fire, while the assailant makes his retreat behind the smoke from the gun. At other times, they approach the walls, or pallisades, with the utmost audacity, and attempt to fire them, or to beat down the gate. They often make feints to draw out the garrison on one side of the fort, and if practicable, enter it by surprise on the other." Such was the enemy who infested western country, and with whom the early adventurers had to contend. In the combat, they were brave; in defeat, they were dexterous; in victory, they were cruel. Neither sex, nor age, nor the prisoner, was exempted from their tomahawks or scalping knife. They saw their perpetual enemy taking possession of their *Hunting Ground*; to them the source of amusement, of supply, and of traffic, and they were determined to dispute it, to the utmost extent of their means. Had they possessed the skill which combines individual effort with a concerted attack; and had they directed their whole force against each of the forts, then few and feeble, in succession, instead of dissipating their strength by attacking all, at the same time; they could easily have rid Kentucky of its new inhabitants, and again have restored it to the buffalo and the Indian, the wild game and its red hunters. But it was ordered otherwise; and after inflicting great distress upon the settlers, without being able to take any of the forts, the approach of winter dispersed them; they having in the mean time killed sundry persons, and destroyed most of the cattle round the stations. Of the settlers, however, it is to be said, that they acquired fortitude and dexterity in proportion to the occasional pressure. In the most difficult times, the Indians were obliged to retire into the woods, sometimes in pursuit of game, sometimes as to a place of safety; and generally by night they withdrew, to encamp at a distance. In these intervals, the white men would plough their corn, or gather their crop, or get up their cattle, or hunt the deer, the bear or buffalo for their own food.

When traveling, they left the paths; and they frequently employed the night, to get out from, or return to, the garrison. In these excursions they often exchanged shots with the Indians; and at times, when they came to the station, found it invested."

[To be continued.]

XXXIII. CONGRESS—COMPLETE.

SENATORS HOLDING OVER AND ELECT.

Whigs in *Italic;* Democrats in Roman. Those marked F. S. are Free Soilers, or Abolitionists; U., those elected as Union men; S. R., those elected as Southern or State Rights men.

President.....David R. Atchison.
Secretary.....Asbury Dickins.

	Expires.		Expires.
ALABAMA.		MICHIGAN.	
Benj. Fitzpatrick	1855	Lewis Cass	1857
Clement C. Clay, Jr.	1859	Charles E. Stuart	1859
ARKANSAS.		MISSISSIPPI.	
Robert W. Johnson*	1855	Stephen Adams [U.]	1857
W. K. Sebastian	1859	Vacancy	1859
CONNECTICUT.		MISSOURI.	
Truman Smith	1855	David R. Atchison	1855
Isaac Toucey	1857	*Henry S. Geyer*	1857
CALIFORNIA.		NEW HAMPSHIRE.	
Wm. M. Gwin	1855	Moses Norris, Jr.	1855
John B. Weller	1857	Jared W. Williams*	1859
DELAWARE.		NEW YORK.	
James A. Bayard	1857	*W. G. Seward* [F. S.]	1855
John M. Clayton	1859	*Hamilton Fish*	1857
FLORIDA.		NEW JERSEY.	
Jackson Morton	1855	John R. Thompson	1857
Stephen R. Mallory	1857	Wm. Wright	1859
GEORGIA.		NORTH CAROLINA.	
Wm. C. Dawson	1855	*Geo. E Badger*	1855
Robert Thombs [U.]	1859	Vacancy	1859
INDIANA.		OHIO.	
John Pettit	1855	S. P. Chase [F. S.]	1855
Jesse D. Bright	1857	*Benj. F. Wade*	1857
ILLINOIS.		PENNSYLVANIA.	
James Shields	1855	*James Cooper*	1855
Stephen A. Douglas	1859	Richard Brodhead	1857
IOWA.		RHODE ISLAND.	
Augustus C. Dodge	1855	Charles T. James	1857
Geo. W. Jones	1859	Phillipp Allen	1859
KENTUCKY.		SOUTH CAROLINA.	
Archibald Dixon	1855	A. P. Butler [S. R.]	1855
John B. Thompson	1859	Josiah J. Evan	1859
LOUISIANA.		TENNESSEE.	
John Slidell	1855	*James C. Jones*	1857
J. P. Benjamin	1859	*John Bell*	1859
MAINE.		TEXAS.	
Hannibal Hamlin	1857	Thomas J. Rusk	1857
Vacancy	1859	Sam. Houston	1859

* By Governors appointment.

MASSACHUSETTS.		VERMONT.	
Chas. Sumner [F. S.]	1857	Vacancy	1855
Edward Everett	1859	*Solomon Foote*	1857
MARYLAND.		VIRGINIA.	
James E Pearce	1855	J. M. Mason [S. R.]	1857
Thomas G. Pratt	1857	R.M.T. Hunter [S. R.]	1859
WISCONSIN.			
Isaac P. Walker	1855	Henry Dodge	1857

RECAPITULATION.

Democrats	37
Whigs	21
Vacancies	4

HOUSE OF REPRESENTATIVES.

The House will consist of two hundred and thirty-four members and five territorial delegates, one new territory having been formed at the last session, viz: Washington. The Delegates, however, have no vote.

Dist. ALABAMA.

1. Philip Phillips.
2. *James Abercrombie.*
3. Sampson W. Harris.
4. Wm. R. Smith.
5. George S. Houston.
6. W. R. W. Cobb.
7. James F. Dowdell.

ARKANSAS.

1. A. B. Greenwood.
2. E. A. Warren.

CONNECTICUT.

1. James T. Pratt.
2. Colin M. Ingersoll.
3. Nathan Belcher.
4. Origen S. Seymour.

CALIFORNIA.

1. James A. McDougal.
2. Milton C. Latham.

DELAWARE.

George B. Riddle.

FLORIDA.

Augustus E. Maxwell.

GEORGIA.

1. James L. Seward.
2. Alfred H. Colquitt.
3. David J. Bailey.
4. William B. W. Dent.
5. Elijah W. Chastain.
6. Junius Hillyer.
7. *David A. Reese.*
8. *Alexander H. Stephens.*

IOWA.

1. Bernhardt Henn.
2. *John P. Cook.*

INDIANA.

1. Smith Miller.
2. William H. English.
3. Cyrus L. Dunham.
4. James A. Lane.
5. *Samuel W. Parker.*
6. Thomas A. Hendricks.
7. John G. Davis.
8. Daniel Mace.
9. Norman Eddy.
10. E. M. Chamberlain.
11. Andrew J. Harlan.

ILLINOIS.

1. *E. B. Washburne.*
2. John Wentworth.
3. *J. C. Norton.*
4. *James Knox.*
5. W. A. Richardson.
6. *Richard Yates.*
7. James Allen.
8. William H. Bissell.
9. Willis Allen.

KENTUCKY.

1. Linn Boyd.
2. *Benjamin E. Gray.*
3. *Pressley Ewing.*
4. James S. Chrisman.
5. *Clement S. Hill.*
6. J. M. Elliott.

7. *William Preston*
8. J. C. Breckenridge
9. *Leander M. Cox*
10. R. H. Stanton

LOUISIANA.

1. William Dunbar
2. *Theo. Hunt*
3. John E. Perkins, jr.
4. Roland Jones

MASSACHUSETTS.

1. *Zeno Scudder*
2. *Samuel L. Crocker*
3. *J. Wiley Edmonds*
4. *Samuel H. Waley*
5. *William Appleton*
6. *Charles W. Upham*
7. Nathaniel P. Banks, Jr.
8. *Tappan Wentworth*
9. Alex. De Witt [F. S.]
10. *Edward Dickinson*
11. *John G. Goodrich*

MICHIGAN.

1. David Stuart
2. David A. Noble
3. Samuel Clark
4. Hector L. Stephens

MAINE.

1. Moses McDonald
2. Samuel Mayall
3. *E. Wilder Farly*
4. *Samuel P. Benson*
5. *Israel Washburn, Jr.*
6. T. J. D. Fuller

MISSISSIPPI.

1. Daniel B. Wright
2. William S. Barry
3. O. R. Singleton
4. Wiley H. Harris
5. William Barksdale

MARYLAND.

1. *John R. Franklin*
2. Jacob Shower
3. Joshua Vansant
4. Henry May
5. Wm. T. Hamilton
6. *A. R. Sollers*

MISSOURI.

1. Thomas H. Benton
2. Alfred W. Lamb
3. *John G. Lindley*
4. *John G. Miller*
5. *Mordecai Oliver*
6. John S. Phelps
7. *Sam. Caruthers*

MINNESOTA.

Henry M. Rice

NEW YORK.

1. James Maurice
2. Thos. W. Cummings
3. Hiram Walbridge
4. Mike Walsh
5. William M. Tweed
6. John Wheeler
7. William A. Walker
8. Francis B. Cutting
9. Jared V. Peck
10. William Murray
11. T. R. Westbrook
12. Gilbert Dean
13. *Russel Sage*
14. Rufus W. Peckham
15. Charles Hughes
16. *George A. Simmons*
17. Bishop Perkins
18. Peter Rowe
19. *Geo. W. Chase*
20. *O. B. Matteson*
21. Henry Bennett
22. *Gerritt Smith* [F. S.]
23. Caleb Lyon [Ind.]
24. Daniel T. Jones
25. *Edwin B. Morgan*
26. Andrew Oliver
27. John J. Taylor
38. George Hastings
29. *Davis Carpenter*
30. *Benjamin Pringle* [Ind.]
31. *Thomas F. Flagler*
32. *Solomon G. Haven*
33. Reuben E. Fenton

NEW JERSEY.

1. Nathan T. Stratton
2. Charles Skelton
3. Samuel Lilly
4. George Vail
5. *A. C. M. Pennington*

NEW HAMPSHIRE.

1. George W. Kittridge
2. George W Morrison
3. Harry Hubbard

NORTH CAROLINA.

1. H M Shaw
2. Thomas Ruffin
3. Wm S Ashe
4. *Sion H Rogers*
5. *John Kerr*
6. *Richard C Puryear*
7. Burton S Craige
8. Thomas L Clingman

NEW MEXICO.

Jose Manuel Gallegos

OHIO.

1. David T. Disney
2. *John Scott Harrison*
3. *Lewis D Campbell* [F.S.]
4. Matthias H. Nichols
5. Alfred P. Edgerton
6. Andrew Ellison
7. *Aaron Harlan*
8. *Moses B Corwin*
9. Frederick W Green
10. *John L Taylor*
11. Thomas Ritchie
12. Edson B Olds
13. Wm D Lindsay
14. Harvey H Johnson
15. *W R Sapp*
16. *Edward Ball*
17. Wilson Shannon
18. George Bliss
19. *Edward Wade* [F. S.]
20. *Jos R Giddings* [F. S.]
21. Andrew Stuart

OREGON.

Joseph Lane

PENNSYLVANIA.

1. Thomas B Florence
2. *Joseph R Chandler*
3. John Robbins, Jr
4. Wm H Witte
5. John McNair
6. *William Everhart*
7. Samuel A Bridges
8. Henry A Muhlenberg
9. *Isaac E Heister*
10. *Ner Middleswarth*
11. Christian M Straub
12. H B Wright
13. Asa Packer
14. Galusha A Crow
15. James Gamble
16. William H Kurtz
17. *Samuel L Russell*
18. *John McCulloch*
19. Augustus Drum
20. John L Dawson
21. *David Ritchie*
22. *Thomas M Howe*
23. Michael C Trout
24. Canton B Curtis
25. *John Dick*

RHODE ISLAND.

1. Thomas Davis
2. Benjamin B Thurston

SOUTH CAROLINA.

1. John McQuinn [S R]
2. Wm Akin [S R]
3. L M Keitt [S R]
4. Prest S Brooks [S R]
5. James L Orr [S R]
6. W W Boyce [S R]

TENNESSEE.

1. Brookins Campbell
2. Wm M Churchwell
3. Samuel A Smith
4. *William Cullum*
5. *Chas Ready*
6. Geo W Jones
7. *R M Bugg*
8. *Felix K Zollicoffer*
9. *Emerson Etheridge*
10. Frederick P Stanton

TEXAS.

1. George W Smyth
2. Peter H Bell

UTAH.

John M Bernhissel

VIRGINIA.

1. Thomas H Bayly
2. J S Milson
3. John S Kaskie
4. Wm O Goode
5. Thomas S Bocock
6. Paulus Powell
7. William Smith
8. Charles J Faulkner
9. H A Edmonson
10. John Letcher
11. Z Kidwell
12. John F Snodgrass
13. Fayette McMullen

VERMONT.

1. *James Meacham*
2. *Andrew Tracy*
3. *Alvah Sabin*

WISCONSIN.

1. Daniel Wells, Jr
2. B C Eastman
3. John B Macy

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ARTICLE I.

Excessive Trading.

There is no season so favorable to reflections calculated to enlighten the understanding and to improve the heart as the commencement of the year. At this period it is natural, for even light and trivial minds, to turn their thoughts upon the past, and review the events which have made the deepest impressions upon their memory. It is natural for all men to pause on the threshhold of the new year, and experience a momentary sense of trepidation at entering upon the unknown and inscrutable future which lies before them.

It is the season of accounting with curselves, and with our neighbor, and with Him to whom we are indebted for all our enjoyments. It is the time of retrospection: and while facts are fresh in the memory, and the hearts of men are open to instruction, it should not be allowed to pass without improvement.

Eminent gifts require the observance of corresponding duties, and hence, in feeble and uncultivated minds the growth of virtue is overshadowed and checked by unwonted or sudden prosperity. Here we may observe one of the most difficult impediments to the progress of civilization: the want of a mental and moral basis of sufficient breadth and strength to support an indefinite accumulation of individual wealth and national power. This is the weak point in all social fabrics. It was the vital defect that occasioned the downfall of the great nations of antiquity; and it is our duty to guard our own social structure from decay at this point by all the means in our power.

In many respects, our country is the most favored portion of the earth, "a land of beauty and of grandeur," where all the ele-

ments combine to develop the human faculties in their highest degree of perfection. It is indeed a munificent heritage, and most worthily did our fathers observe the duties which it required at their hands. They established political and civil institutions calculated, in an eminent degree, to promote the fullest development of the mental and moral faculties; to incite men to investigate all subjects relating to their individual and social well-being; and to encourage industry in all its varied departments, by securing the enjoyment of its rewards to every individual. Such is the patrimony of the present generation—richer than was ever inherited by any other people. But in our inconsiderate haste to improve it, we lose the chief enjoyments which it is capable of affording.

A restless desire to accumulate wealth, prevails throughout the land, subjecting every human faculty to its imperious sway. It admits of no repose, gives no place to the finer emotions of the heart, makes every relation subservient to the attainment of one object, and abolishes the distinction between money and morals. It is not our province to draw aside the veil which conceals the mysteries of the domestic relations, and expose the inquietude and discord which spring from this source: enough is known to the public to admonish all men of the folly of making wealth the basis of their social relations.

The branch of this subject, which more properly belongs to the public economist, is *excessive trading*, originating in a desire to grow rich suddenly by buying and selling the products of other men's labors.

Without recurring to the several great revulsions which have prevailed throughout the land at different times, reducing very many to a state of destitution, blighting their hopes, destroying their usefulness, and demoralizing their character, the year which has just closed furnishes facts sufficient to admonish the American people of the evil consequences of over trading and speculation.

At no time in the history of this country have the elements of wealth been so abundant as during the year 1853. The seasons for several years preceding had been propitious, and the labors of the agriculturists crowned with a munificent reward, the mines of California were highly productive, yielding more than $50,000,000 per annum, the shipping interest was prosperous, and every branch of industry, save manufacturing and mining for the more useful metals, had been rapidly increasing, and yet, owing to ex-

cessive trading, great embarrassment has been experienced in every department of business.

After giving due weight to the fact that a large amount of money has been drawn from the ordinary channels of commerce for the purpose of building railroads, we still find a more potent cause of financial embarrassment in the excessive importations of foreign merchandize.

According to the report of the Secretary of the Treasury of the United States, the imports of foreign merchandize, including specie, during the fiscal year ending June 30th, 1853, amounted to $267,978,647, being an increase of $55,033,205 on the amount imported for the preceding year. Now if we suppose $50,000,000 of this increased amount of imports to be goods paying duty at the rate of twenty-five per cent., we must add $12,500,000 to the $55,033,205, making the value of imports for the last fiscal year, when received from the custom-house, about $68,000,000 more than for the year ending June 30th, 1852.

It is quite obvious from this view of the subject that it was not the building of railroads, but overtrading in commerce, and speculations in unproductive property, that occasioned the financial difficulties under which the country has been laboring for the last nine months.

The imports of the years 1851 and 1852 were regarded as excessive, but if there had been no increase on the amount received in 1852, every department of business might have remained in a prosperous condition, and the public improvements of the Western and Southern States would have been about one year in advance of their present stage.

It is true, the exports of 1853 exceed the amount of the preceding year, but it is shown by the Secretary of the Treasury that the amount including specie was $37,526,397 less than that of the imports. And here we find occasion to notice the remarks of the Secretary touching this deficiency. He says: "A fair estimate for profits on our exports and the freight of our vessels would cast the balance of this account in our favor, without estimating the money brought in by immigrants, of which no account is taken."

Similar views were entertained, more especially we believe, by Whigs, in the years 1835 and 1836, but the revulsion of 1837 exposed the falacy of such estimates. The commercial and financial history of this country proves beyond doubt that, whatever may be the profits

to dealers and carriers, the balances against this country must, as a general rule, be paid by the shipment of specie.

The Secretary of the Treasury makes no allowance for under-valuations of merchandize in foreign markets, and seems to forget that the freight which we pay to foreign vessels is a fair offset to that earned by our own. In the fiscal year ending 30th June, 1852, more than half of our domestic exports, and more than a third part of our imports, were made on foreign vessels.

From the notice taken of the money brought in by emigrants, it would seem that the Secretary entertains the opinion that it is to be regarded as an offset to the balance of trade against the country. It is true, it adds to the wealth of the nation, and were one taking an inventory to ascertain whether the country possessed a sufficient amount of money to pay its foreign debt, it would be proper to take this into the account; but it should be remembered that it is private property, and bears the same relation to the foreign debt as the money of other citizens; and as the immigrants are not supposed to possess a larger amount in proportion to their numbers than the old citizens, it is difficult to perceive the principle upon which the money they bring is to affect, in any material degree, the financial condition of the country. Indeed, it is not certain that the immigrants do not send home to their friends quite as much money as they bring with them. It appears from the report of the Colonial Land and Emigration Commissioners, for the year 1851, that £990,000, about $5,000,000, was remitted from the United States to the United Kingdom during that year by emigrants.

It is remarkable that, while the Secretary of the Treasury was looking outside of the custom-house reports for facts to show that the balance of $37,000,000 was merely nominal, it did not occur to him that some deduction ought to be made from these imaginary items for the interest accruing upon the public securities of this country held by foreign capitalists.

We regret that the spirit and tone of the Secretary's report is calculated, as we conceive, to encourage rather than check the mania for trading in foreign merchandize. We did not expect him to suggest a remedy for the evil; indeed, it may be doubted whether it is practicable to protect the country against the consequences of excessive traffic by legislation. There is a class of men whose temperament disqualifies them for that calm and steady employment

of their time and faculties which is necessary to make them successful producers or safe merchants. They are in a hurry to grow rich suddenly, and delight in excitement. They are speculators by nature, and can only be restrained from indulging their propensities by the most severe reverses of fortune. They profit nothing by experience: disappointment and failure make them only the more reckless, and when their means and credit are finally exhausted, they sink into a hopeless state of indolence and vice, rather than submit to the sober discipline required to ensure success in legitimate pursuits.

The following extract from the "*Placer Times & Transcript*," published at San Francisco, places the trading mania in such a clear light, that we are induced to copy the entire article, with a hope that the admonitions of the author may be of service to the country. The paper is dated November 15th, 1853.

VIEWS OF A SAN FRANCISCO MERCHANT.

The following severe but truthful remarks in regard to the recklessness of Eastern shippers in forcing upon us merchandise for which there is no immediate requirement, and which in most instances cannot be sold for cost and charges, are from a mercantile friend whose experience and standing entitle his views to the serious attention of those to whom they are addressed. We cheerfully give the article a place, and commend it to the perusal of our readers, particularly those on the Atlantic side.—*Editor of the P. T. & T.*

TO THE MERCHANTS AND SHIPPERS GENERALLY AT THE EAST.

The mail of to-day will take to you the same discouraging accounts which have been sent you semi-monthly six times in succession—and as we write, your past recklessness forces upon us this question—what will be their effect? We must except a few articles which are enjoying a momentary galvanized life, under a feeble fall trade, like that of Panama under a slight infusion of Anglo-Saxon energy. Here we stop. And now to make one last appeal to you to *cease shipments*, *not partially*, but altogether for *four* months. The sight of a clipper and cargo has changed from the pleasing to the revolting. You have loaded us, crushed us with goods, against fearfully ruinous prices, against a slowly increasing population, against good judgment, and a constantly falling market—against all these facts, reiterated every two weeks since last February.

For thirteen successive months, from May, 1852, to June, 1853, you placed at our wharves one ship per day, and for the last eight months you have continued to pour in upon us the goods, regardless of the advices of every house of standing amongst us; regardless, too, of all that we were daily receiving from every quarter of the globe—from Arracan, Batavia, Manilla, Hongkong

—from the Archipelagos of both Oceans—from England, France, Germany and Spain—from fertile Chili, and all the Spanish, Mexican, American and Russian ports which mark a line of coast six thousend miles in extent—from Talcahuanna to Oregon and Sitka—regardless of all this, we say, you have continued to roll in the merchandise upon us, two thousand tons per day, and not satisfied with quantity.

To designate a few articles. You have sent us against a thousand repeated advices, all the brands of flour that can be found in a New York *Shipping List*, and boldly asserted that they must keep sweet, whilst you have received monthly the beggarly sales of said flour—"Sour—musty—caked—perished. Sold at $7, $8, $9 per barrel." The next mail, however, brings us further invoices of the same sort, all of which must turn out *good*—so say your letters; and all of which always turn out *bad* — so say the facts. We tell you that even if it prove superfine, it would not realize so much by $3 per barrel as Gallego and Haxall, except in a time of actual scarcity; and your reply is, one more—another—yet another invoice. And thus you go on, till, we suppose, bankruptcy only will stop you.

Of Butter you have sent us 8, 11, 20, 15,000 packages per month, (our consumption say 9,000,) and the stock in this city alone now, clean and clear, 60,000, (five and a half millions of pounds,) and yet you now clear it by thousands of packages, as deliberately to a population of 300,000, as if you were sending corn to some famished Ireland, with her millions. Moreover, though often told you should ship none but the best, you purchase a cheap article for 12½ cents — invoice it 22 cents, and think we can sell it *blind*, quality, color, weight and taste. But the San Francisco of '53 is not that of '49. Having bought the article which you know CANNOT reach here in good condition, you place the cap stone upon your folly, by putting a costly cask around it, and filling it with salt and brine, and then to heighten an already too aggravated foolery, you pay 5c. ℔ lb *freight alone* to get it here, and nothing remains to exceed the consummate stupidity of the last act, but six months of self-deception, waiting *golden* returns as the result.

We tell you that Bacon must be thoroughly smoked and cured, and that a full quantity of salt must be placed between each peace, so that no piece shall touch another or the sides of the box. You reply, by stinting the salt and sending it half cured; and when the account sales reach you, "soft, tainted, *skippery*, bad, stinking —sold @ 4c. ℔ lb," you think that your consignee has cheated you, and tell him that it was put up by the first packers in New-York.

Is this sufficient? We *might* go an. California con promise you this year, seven millions of dollars losses, sure. We regret it deeply, but whom shall you thank but yourselves? You have de-

signed, built and cleared clippers in ninety days, and we have done the same in warehouses, all but the *clearing*, in thirty days; and this brings us to your only deed of omission. You have allowed the English insurance offices quietly to place away the trifling premiums of three, five, and eight per cent. per annum, on fire-proof buildings, which you yourselves shall say, (four hundred of them) cannot be surpassed or equalled for their fire-proof qualities, in any city on the Atlantic side. But we digress.

We don't know *when* to stop *writing*, or *how* to stop *you*. We ask you once more, as you regard your own credit and standing, to leave us alone. We assure you that we have stocks of some articles sufficient for many months, and of not a few, that cannot be consumed in a year. Nails, drugs, pilot bread, ground coffee, butter, boots and shoes, codfish, hardware of all kinds, spices, ploughs, tin ware, stationery are all like some of England's outstandings consolidated funds. Hams, bacon, and lard are in supply for six months, and there are still from the Atlantic domestic ports more than eighty ships yet to come in.

We beg of you to leave us—*not for a day—not partially*—but to cease shipments altogether for four months. In this way you *may* save something. Give us rest. The tender mercies of the parent have become indeed too great.

And with equal propriety and emphasis the whole country may say to the importers of foreign merchandise, "cease your shipments," until we have paid for and consumed the surplus commodities amounting, as we believe, to $75,000,000 which you have brought to our markets within the last twelve months.

We regarded the stringency in the money market last summer, as a fortunate occurrence, and felt strong confidence in the opinion that it would operate to reduce the importations of foreign merchandise to an amount corresponding to the exports of our agricultural and manufacturing productions; but in this we have been, thus far, disappointed. The most remarkable, and indeed the most alarming fact relating to the commercial affairs of the country, was the continual increase in the importations of foreign merchandise throughout a season of great financial embarrassment. In view of these facts, and the imports still continuing to increase up to our last advices, we must confess that the opinion which we expressed two months ago touching an improved state of the money market during the current year, has been much weakened. We had supposed until the report of the Secretary of the Treasury was published, that notwithstanding the increase of importations, the balance against this country had been kept down

by the export of specie, and consequently as soon as the importations were checked, money would commence accumulating; but it will take some time to adjust the balance, which may now be estimated at $50,000,000—even if the importations should immediately decline.

We still entertain a hope that this extraordinary influx of foreign merchandise will subside in time to save the country from a severe revulsion, but it is high time that the public mind was awakened to a serious investigation of the subject, especially in the Western States.

Shall our great projects of public improvement designed to open commercial avenues to the most isolated and remote districts, build up our cities, bring into social contact the inhabitants of every part of our common country, binding them together as one family, be suspended and abandoned for an indefinite period, that we may enjoy the use of foreign commodities, which contribute more to the vanity than to the comfort of the consumer? Common sense and patriotism forbid that such should be the case. If it be ordained that we must have a revulsion, let us have something to show for it: better have unfinished railroads than rich wardrobes and ornaments that convict the bankrupt of extravagance and folly, which deprive him of the confidence and sympathies of the community.

But it is yet in the power of the western people to protect themselves against the evils of overtrading, and also carry out their plans of public improvement, if they will change their policy. Let them withdraw their bonds and mortgages from market, and go to work upon their own means like men resolved to accomplish whatever they undertake. If they will pursue this course with judgment—not undertaking too much at a time—instead of breaking down, they will gain strength as they progress; and instead of paying merchants' bills for superfluous commodities consumed, they will add to their wealth by accumulating certificates of good dividend-paying stocks.

Indeed we can imagine no better way of checking the excessive importations of foreign merchandize than to create a local demand for money for public improvements. Hitherto the people, in general, have not felt the burdens of constructing railroads in the West. The money used in carrying them on has been drawn chiefly from the eastern cities, and hence the volume of circulation has

been increased, and the consumption of foreign commodities encouraged. This was a natural consequence; and it may be well questioned, whether it is practicable to carry this system much further without producing a state of general embarrassment.

We submit these suggestions more especially to the people of Missouri. We have labored in common with others to establish a system of public improvement, which commends itself to the approbation of the people in every part of the State; but we have hitherto left it with those more immediately interested to devise the ways and means of accomplishing the work. Nor should we have alluded to this subject now but that it is involved in another which concerns every part of our common country.

It is generally safe, and sometimes it may be a wise policy, to complete a system of public improvement by the use of credit; but we can imagine no case where it would be prudent to rely entirely on borrowed means in the beginning.

In conclusion, we are compelled to admit that since a more thorough investigation of the report of the Secretary of the Treasury, we regard the financial prospects of the current year as being much less favorable than we did at the beginning of last month; and we are persuaded that if the mania for excessive traffic and speculation continues unabated until the end of the year, a severe revulsion will be inevitable.

ARTICLE II.

Flax Culture.*

Preparation of the Land.—All authorities agree in the necessity of clearing flax land of weeds as perfectly as possible. It should be well drained of surface water, for the roots of flax often penetrate as deep as the length of the plant above ground, if the collar of the plant is not too wet. A light plowing should be given immediately after harvest, no matter what may be the soil. A

* In behalf of the agriculturists of the West, we thank the enterprising Editors of the "Louisville Journal" for the pains they have taken in collecting and arranging the useful information contained in the following article. And we beg to add that, though a political paper, we have found more well digested and useful information relating to agriculture in the 'Louisville Journal', for the last five years, than in all our other newspaper exchanges put together. We sincerely hope that others observing the success of this paper will follow its example in this department of literature.—*Sr. Ed.*

heavy stiff soil should be plowed up in ridges in the fall, in order to be exposed to the frosts of winter. About two weeks before the time for sowing the seed the land should have a deep plowing followed by harrowing and rolling. No matter how much labor may be bestowed on the land in making its tilth perfect, and in the destruction of weeds, the improvement and increase of the crop will abundantly pay. There is in fact no crop that will yield such returns to proper labor and management as the flax crop. No other product of land pays such a profit to well-directed labor, and it must always be remunerative, because the market has never been overstocked with the textile material of a flax crop. Even if an American crop were to glut the mills of America, England would readily purchase all that might not be needed for the American home market. But it cannot be too deeply impressed upon the minds of cultivators that flax land must be put in the best possible condition for inducing the long fibrous roots to penetrate the earth as deeply as possible. Lands which hold water at the distance of two or three inches from the surface make superior flax crops, but there must be no surface water.

Soils.—Sandy loams and alluvial soils, either natural or artificial, are the best for flax. But good crops are sometimes made in light and heavy clays, reclaimed marsh land, gravels, chalk, &c. An open soil through which water percolates readily is best adapted to the flax crop. He that would get a richly remunerative crop must command the favorable circumstances we have named. As no practical result has yet followed the attempt to extract sunbeans from cucumbers, no one need expect any rich returns from a flax crop on land that is not adapted to the plant, nor on land that is suitable, unless it shall be properly prepared, and suitably cultivated.

Seed. — If the object is to make a very fine flax, the Holland seed is the best. Riga seed is the best for a seed crop, since it may be made to yield abundantly of that article. The Riga seed is also best adapted for a variety of localities. It should be sown one year for seed, and this should be used the following year for a crop of fibre and seed. But seed foreign to the locality should be frequently resorted to because the seed soon degenerates. The farmers of Wisconsin and of Kentucky, for example, should exchange seed at least every alternate year. Great management is required in this department of flax cultivation. Whatever seed may be used should be carefully sifted in order to get clear of the germs of weeds. And when the land has been well prepared, and the seed is suitably selected and cleaned, at least *two bushels* of the latter should be sown broadcast by the hand, or by the broadcast barrow. It is better to sow too thick than too thin, as with thick sowing the plant grows long and fine, while thin sowing produces a plant full of branches, which yields seed freely, but makes a very poor fibre. The seed should be sown as *evenly* as possible,

so as to avoid the trouble of separating the various qualities of straw that would grow in a field irregularly sown. After the seed is properly sown, cover it *across* with a seed-barrow, as by this means the seed is spread more equally. Immediately after the harrowing use a light roller upon the land. The seed should be covered about an inch deep. The seed may be sown early in April.

As soon as the plants grow to the height of one or two inches, the field should be carefully weeded. This is done in Belgium by sending boys with coarse cloths wrapped around their knees into the field. They crawl along on all fours and pull the weeds. This method is found to be less injurious to the young flax, than when the weeders walk at the work. All the weeds should be removed before the flax reaches three inches in height. After that, it will weed itself, and no crop is as effective in cleaning land from weeds as flax.

Harvesting the Crop.—A diversity of opinions is entertained on this point. Many authorities think that the straw should be gathered while in a green state, before either fibre or seed is matured. We have carefully investigated the subject, and we are satisfied that the plant should be well advanced towards maturity, before it is cut or pulled. Mr. Wilson, in whose judgment we place a great deal of confidence, and who is the highest authority on the subject, is of opinion that the proper time for gathering the crop is when the straw has assumed a yellow color immediately under the branches, and when, on opening the capsule, the seed is found to be of a pale brown color. After the flax is pulled or cut, the handfulls are laid across each other, and afterwards bound up loosely in small sheaves, which are then stacked up in the best manner possible for the admission of a free circulation of air among the straw. After they are well dried, they are permanently stacked either in the field, or at the homested. Sometimes the seed is gathered before the permanent stacking. This is effectively and cheaply done by passing the straw between the ends of plain rollers which crush the capsule, but the straw does not enter the rollers. The seed is then winnowed, and the 'boll' is saved on account of its valuable qualities in connection with one of the recent discoveries in preparing the flax fibre, of which we shall hereafter speak. "Under favorable circumstances," says Professor Wilson, "we may expect an average crop to produce from 30 to 40 cwts. of straw, and 16 bushels of seed to the acre."

The processes which we have described have now placed in the hands of the farmer two valuable articles which will at any time command cash. The seed may either be fed to cattle or sold to the oil mills. The crop of seed per acre is worth twenty dollars, just double the present average quantity of flax seed per acre, now raised in this country. In America the fiber is foolishly and wastefully thrown away; in Ireland the seed crop is just as foolishly

thrown away. The most extended observations of facts show that both practices are foolish, for it is perfectly practical to gather both items of the flax crop from the same field. While we are pleading here that the American farmer shall double his crop of seed, and prepare his fiber for a cash market that stands ready and eager to take all he can make, the Royal Flax Society of Belfast is earnestly pleading against the foolish waste in Ireland, by which large sums of money are thrown away in neglecting the seed crop, when the waste does not in the slightest degree improve either the quality or quantity of the fibre. Lord Erne stated at the recent meeting of the Royal Flax Society, that the flax seed thus wasted in Ireland is worth £5 or twenty-five dollars p. acre. In the report of the proceedings, the following facts were developed: It cost the Earl of Erne

"No small trouble among his own tenantry to induce flax-growers to save even a portion of the flaxseed. The matter seems singular, but it is very true. In fact, we have the best reason for knowing that, of all the flax grown in Ireland, on scarcely a proportion of 5 per cent. is the seed saved. There have been reasons alleged to produce this seemingly criminal inertness, such as the ignorance of method and the want of markets; but it is hardly to be considered that in Ireland seed, if saved, could fail to meet with a sale, either for crushing or sowing. The people of the south and west of Ireland, incredible as it may appear, under the instructions of the society's teachers, are really making better progress towards the continental system of saving seed and straw than the farmers of Ulster; the people here are so wedded to old habits, and so tenacious of impressions once made. Let us now briefly glance at the loss that is caused by this criminal waste of valuable produce. The whole extent of land under flax this year was, as we learn by the report, 175,469 acres, which, taking off 5 per cent., using round numbers, and estimating the value of flaxseed at £4 an acre, shows a dead loss of something approaching £400,000, which next year may be probably calculated at above half a million. With such a loss before their eyes, and knowing that a market is never likely to be wanted for oilcake, it will be a proof of singular inaptness indeed if the flaxgrowers of the country do not turn their attention to the waste they are yearly committing, follow the advice of the Earl of Erne and the Royal Society, and put £4 or £5 an acre into their own pockets rather than allow it to be liquified in a boghole."

Now if these remarks are true of Irish flax culture, do they not strike severely at that absurd system of American farming which mismanages the flax crop so as to get only ten dollars' worth of seed per acre, when it is quite as easy to get twenty dollars' worth per acre and which, in addition to this deficiency, then throws away flax fibre which may be converted into fifty five dollars per acre? American farmers should awaken from this deplorable mis-

management. Every bushel of seed and every pound of fibre that can be raised will at once command a certain cash market at prices that will remunerate better than any other kind of farming.

Improvements in separating the Flax fibre.—We have often referred in these remarks to the great improvements that have been made in separating the flax fibre from the shive of the plant, by which an immense impetus has been given to flax culture, and the manufacture of linen fabrics. The old processes of water or dew-rotting were attended with a great deal of trouble, loss of valuable time, and uncertainty as to the proper time for removing the straw from the water. If it remained in the water too long, the fibre was weakened; if removed too soon the fibre could not be perfectly separated, and a great deal of it ran to tow in the heckling process. These difficulties undoubtedly were the main cause of the inattention to the crop which has characterised the farmers of this country. *But every difficulty in this important department has passed away through the agency of science and mechanical ingenuity.* In the first stages of these improvements the ancient, uncertain, and anxious labors of weeks dwindled down to days, and the latter have been reduced to hours in which there is neither anxiety nor uncertainty. These discoveries have given an immense impetus to flax culture as we have already shown, and this immense increase of flax culture is sufficient proof of the reality and value of the discoveries. It has already been noticed by the readers of our second article on this subject how rapidly the number of acres devoted to flax culture increased in Ireland after 1848. In that year, there were 53,866 acres of flax under cultivation in that country. In 1850, there were 91,040; in 1851, 138,619; and in 1853, 175,469. Let us now look at the cause of this immense increase of flax cultivation in Ireland. In 1848, Mr. Schenck, an American gentleman, introduced a vast improvement upon all former processes for steeping flax. His plan was to *expedite the fermentative or putrefactive stage, which was considered essential to the separation of the flax fibres from the woody structure.* It was known, that, at a temperature of from 85 to 90 degrees, the glutinous matter that held the flax fibre to the shive would commence fermentation, and Mr. Schenk proposed to expedite the flax straw into this fermentation by the use of hot water. His plan was highly successful. The Royal Flax Society, ever alive to improvements in all things pertaining to flax, at once commended the Schenck patent, and, under the auspices of that Society, twenty retteries, upon Schenk's principle, were soon under way. They prepared from 30,000 to 40,000 tons of flax annually. A great saving of labor and of time was effected, and the whole business was under the control of the operator. Instead of the labor and loss of time of from two to three weeks required under the old method, Schenck's plan accomplished the work for the fine varieties of flax in seventy-two

hours, and for the coarse qualities in ninety-six hours. It was found too that the yield of the fibre was increased in quantity. Experiments proved that the gain of fibre by Schenck's process, when compared with the old plan, was from 20 to 23½ per cent., and that the quality of Schenck's fibre was superior to that made by the old method. Abundant facts prove these points.

But there was a serious drawback in the improvement, great as the advantages were. It set up a putrefactive process, which loaded the air with disagreeable and noisome oders, and destroyed a material element of the flax crop. Mr. Schenck richly deserved all the prosperity he won by his scientific discovery. But a more recent discovery has thrown Mr. Schenck's system into the shade quite as much as his had thrown the old one. The more recent discovery makes a much greater saving of time and labor than Schenck's, and it raises revenue upon nearly the entire flax crop. In the horrible gasses which issued from Schenck's plan were wasted two tons out of every seven tons of straw, and this was a waste of a most valuable article of nutriment for cattle. The recent improvement to which we refer is known as Buchanan's patent. Professor Wilson describes the improvement:

"No sooner, however, had the spinners given their testimony in favor of Watts's fibre than another process was patented by Buchanan, also of Glasgow, which appears to be an improved application of the same principle as Watts', for the solvent power is clearly not due to the steam as made use of by him, but to the hot water occasioned by its condensation.

In this the steeping is effected by repeated immersions in a tank of heated water, arrangements being made by which the temperature is never allowed to exceed a certain degree—a point of great importance, both as regards the abstraction of the azotized extractive matter; and also the quality of fibre produced. It is well known that albuminous solutions, containing even a very small proportion of albumen (1 in 1,000), coagulate at a temperature of 180 degrees, and then become insoluble; and it is always considered that fibre is more or less injured if exposed beyond a certain high temperature. These two important points have been taken advantage of in Buchanan's process; the temperature of the steep liquor is kept within a certain range of temperature, and the operations both as regards time and produce, more satisfactorily performed. The process is quite *automatic*, thus saving labor and the risks consequent upon carelessness; and the mechanical arrangements by which it is effected are very simple and inexpensive. The flax straw is placed in an open vessel termed the steeping vat, having a false bottom; a boiler generates the steam required; and between these two is placed a suitable vessel, the condenser, of about the same capacity as the steeping vat, and communicating with that by a hot-water pipe, and with the boiler by a steam pipe. This center vessel or condensing chamber is

filled with water from the cistern, and steam is then blown in from the boiler. When the latent heat of the steam is absorbed, and condensation no longer takes place, the hot water is driven over into the steeping vat, and completely immerses its contents. The overflow pipe then conveys a portion into a bucket, which, overpowering the balance weights, descends, drawing a chain, which, being attached to the pullies fixed on to the cocks of the steam-pipe, and of the condensing pipe, reverses their action by cutting off the steam and turning on a charge of cold water into the condenser. The steam in the condenser is then rapidly condensed, and the liquor drawn back from the steep vat into which it had previously been forced. This completes the operation of immersion, which recommences immediately—for as soon as the overflow bucket has reached a certain point in its descent, it strikes against a pin, having a screw adjustment, which causes the valve at the bottom to open and discharge its contents into the discharge pipe. The bucket then relieved of its load, resumes its original position, the balance weights act on the pullies, which again reverse the cocks, cutting off the cold water sparge, and turning on the steam to the condenser. This is repeated as often as may be required.

So far as the experiments have gone, it has been found that by ten such immersions the whole of the coloring matter of the flax has been removed. These in practice would not occupy more than three or four hours. This, however, is subject to the test of the operations on a commercial scale which are now in progress in Scottland for carrying out the patent.*

By this process we have all the advantages obtained by Watts—economy of products—increased economy of time, only four hours being required instead of twelve—and, in addition, great economy of labor. Another great improvement is claimed by Buchanan; his method of drying the steeped straw preparatory to scutching. This is usually a tedious and costly process as regards labor and arrangements. The fibre, too, is to a certain extent liable to be injured by the necessary handling. The ordinary mode is to place the flax thinly spread between two wooden laths, which, when closed by means of hooks or rings over their ends, firmly bold the stems; about fifty-six of these are required for a cwt. of flax. They are then carried to the drying shed and suspended from frames, where they remain exposed to the action of the air until they are dry. The time required depends on the weather—from three or four days to as many weeks. In Watts's process, where steam is available, the process of manipulation is the same, but the drying is effected in a heated chamber in a much shorter time.

* The patent for the United States will be carried out by the American Flax Company, of which Mr. Thomas Kimber, Jr., of Philadelphia, is the managing director, to whom all applications in reference to it should be made.

Buchanan's method is entirely different. He proposes to effect the desiccation in the same vat in which the flax was steeped, by means of dry warm air, which is driven through it in unlimited quantities, at a very little expense. The air is readily obtained in the desired state by causing it to pass through porous earthenware pipes set across the lower part of the chimney, which while heating the air, deprive it of its moisture. These communicate on the one side with a pipe which conveys the heated air to the lower part of the vat containing the flax to be dried. This is all the arrangement needed. The blower drives the air through the earthenware pipes; its temperature is there raised, and moisture abstracted, and entering the bottom of the steeping vat, it comes in contact with the flax and passes through it, absorbing and carrying off the moisture, and leaving the flax in a perfectly dry state. It is then ready to be rolled and scutched. The patentee's experiments induce him to believe that by this process the entire operation of converting the straw into dressed fibre may be effected in the working day, or twelve hours; and, from the simple nature of the mechanical arrangements and of the materials required, a very moderate outlay would suffice for the formation of an establishment equal to the probable produce of a given district. The steeping process being entirely automatic, the cost of labor is very small indeed, and the whole expenses of the operation materially reduced.

The liquid which passes from Buchanan's steeping vat, instead of being a loathsome putrefaction, is as pleasant a beverage as a solution of gum arabic, and is highly nutritious. It is in fact liquid albumen. When poured upon the chaff from the "bolls" of the flax seed it is an invaluable food for cattle and for hogs, and is a clear gain of two tons of albumen or gluten for every seven tons of flax straw.

In the light of the facts we have presented on this great element of American agricultural wealth the American farmer may see his way clearly to prosperity. We feel humiliated in restricting the yield of the flax crop of the American farmer to 16 bushels of seed and 400 or 450 pounds of flax fibre per acre. These would be considered poor returns in Belgium, Ireland, and other flax countries. In those countries, the yield varies from 20 to 25 bushels of seed, and from 600 to 1,100 pounds of fibre per acre. But even the inferior amounts we have named for American farming make it much the most profitable crop that is known in this country. Flax occupies the land but a short time; and so far from exhausting the soil, it is the best crop to precede wheat. The seed is worth $20, and the fibre, even if the straw is sold to the owner of one of Buchanan's machines, is worth $14 per acre, and if separated by the cultivator is worth from $50 to $55 per acre, thus making an acre of flax equal to $34 or $75 per acre. And we have the authority of Messrs. Thomas Kimber, and C. Harts-

horne, of Philadelphia, for saying that they have made arrangements for purchasing every pound of flax fibre that may be raised in Kentucky. Upon its delivery in Louisville, these gentlemen, in behalf of the Fall River Linen Company, will pay cash for the fibre at the rate of $250 to $350 per ton, according to the quality of the article. We can assure Western farmers that they may fully rely on these facts.

It is seldom that an agricultural interest is important enough to demand the extended consideration we have given this subject. But we feel that this is one that offers such inducements to farmers that they cannot understand it too well, and from the works of Prof. Wilson, Fairbarn, and Deman, we have culled the valuable facts presented in this series of articles on the culture of flax. If Western agriculture responds properly to these facts, we shall feel that our labor has not been in vain, and we shall rejoice in knowing that we have contributed our share toward the development of a great Western interest.

ARTICLE III.

[From the Middleton News.]

Atmospheric Railway.*

I offer the following remarks on the application of a new method of using the Atmospheric Tube on a large scale, in order that it may lead thinking men to turn their attention to a plan which seems to promise favorable results, and that they may suggest such difficulties, and their remedies, as always arise with any new conception.

Before such a project could be matured, the tube for packages between Boston and Worcester will probably be in operation, and will suggest new methods of overcoming such difficulties as may arise.

The idea of being *shot* through a dark tube and coming out a mass of brains and batter, may perhaps take a less repulsive form when it is merely proposed quietly to glide through a lighted room with polished walls, as slowly and gently as may be desired, with such perfect command of the power as to stop, open the door and step out on the ground at any point of the journey.

The plan proposed is as follows: To lay a wooden pipe on an ordinary railway road-bed, between any two termini of two or two

* We copy the following article from the *American Railway Times*. We have formed no opinion as to the feasibility of the project. To say the least of it, however, it is ingenious; and shows that the speed and comfort of railroad traveling is beginning to be regarded as insufficient for the wants of the age.—EDS.

hundred miles distance from each other. This pipe to be about eight feet in height and nearly the same in width, either rectangular or circular or eliptical; to be built of staves of sufficient thickness, and banded with iron straps; alternate staves on the sides to be replaced with glass set in, like the dead lights of a vessel, and of sufficient number to give as much light as the windows of a rail-car. At distances of perhaps one thousand feet apart throughout the length of the tube, doors are to be cut which must hang on centers so as easily to open at all pressures, by being pushed by a person inside the tube, and to be large enough for a person to pass through them. Outside of these doors a box or chest is to be fastened on the tube—into this chest the door swings. —A valve, opening by means of a handle in this chest, is to be put on its side. This too is large enough for a person to pass it when it is opened, and by this means a person inside the tube can always pass out at any point along the line, and at any state of the vacuum, whilst the door, when shut, forms a part of the uninterrupted tube. This completes the tube and its adjuncts except at the ends and stations; and thus furnishes a simple line of transmission, accessible, not easily out of order and easily repaired, but having to counterbalance its simplicity, the disadvantage that any part out of order disarranges the working of the whole.

In the tube a piston is to work of the same area as the cross-section of the tube, and moving in the same way as the piston of steam engine, or the dasher of a churn. In this piston a valve to be put to regulate the difference of pressure on the two sides, and also for ventilation; or a self-acting valve may be made for ventilation, and so set as always to cause a gentle breeze of fresh air through the cars. These cars would be light seats on wheels, and would be hooked on behind the piston. This completes the machine which may be operated in the best way that the experience of the Atmospheric railway, and of Mr. Richardson's express tube can teach us. This mode of conveyance is proposed because it is believed to be safer, more comfortable, cheaper, and more speedy than by railway.

Its safety.—It would be safer because the following sources of danger would be removed, collisions in front and rear, switches misplaced, running off the track, breakages of machinery; and from the nature of the case, road crossings, cattle, and draw-bridges. Of these, which are the chief and almost the only source of danger on railways, two only can occur in a tube. That of breakage is very slight, as there is but one piece of machinery, the piston, and this may have several rings to reduce the risk. The accident of having a train run into one ahead of it which may be stationary, may be avoided as now by a lantern at night or by not allowing two trains in the same tube, or part of the tube, at the same time, and by another method to be described when speaking of the comfort of this mode of travelling. The annoyances of dust, noise,

and jar, would be removed; the light would be the same as on rail-cars, and a continual gentle breeze would float through the cars and the ventilator, in the piston. The control which the valve in the piston would give, would enable the train to glide as slowly as a barge floating in gentle waters, or speedy and noiseless to shoot along swiftly as a ball from a gun.

Should any accident occur to the piston or cars, the doors and valves in the sides of the tube would furnish as ready an exit to the open air as the doors of a house, and when one of those valves would be opened, no train from the rear could possibly pass the station back of that on which the disabled train was standing. A very great difficulty with the Atmospheric railway was, that when a train was disabled, it was difficult to reach it; but in the proposed plan *unless the tube should be* injured, assistance cars could be conveniently sent to any point.

The economy of the project.—The expense of the woodwork of the tube for a single track, would be about $6,000 per mile, and with the glass and valves, would perhaps exceed $10,000 p. mile. The cost of transportation has two elements less than by rail. The weight of engine, tender and cars, and also the greater expense of maintaining a locomotive than a stationary engine, are both avoided. The cost of sending a train of passengers between New York and Boston, may be estimated as follows: 1,000 passengers, baggage cars, and piston, at 500 lbs. per passenger, is 500,000 lbs. weight, requiring a pressure of 8 lbs. per ton to move them on a level, or a pressure of 2,000 lbs. against the piston, which is less than three tenths of a pound per square inch. On the highest grade on this line the load would be increased to not quite one pound per inch on the piston, (and with this pressure the friction of the packing to prevent leakage around the piston, would be slight.) This would be the greatest vacuum required at any time, and the pumps would be arranged to act at any determined speed at this rarity of the air, and thus the velocity for the train in all parts of the tube, would be determined and might if required, be set at four miles just as well as at one hundred per hour.

To move the ton which represents the friction of the load assumed through 237 miles, would require with condensing engines, three or four tons of coal, say at an expense of $20. The ascent and descent here being equal the amount of power to raise the weight on the rising grade, is balanced by that weight on the falling grades.

The expense of running a train by rail being about $112 for this distance, and the total expense being $237, if the expense of conveying the load through the tube be increased four-fold to cover all contingencies; at this amount, or $80, it shows a much more economical method of attaining the object than by a railway. The items of repairs of tube, piston, &c., and maintenance against decay, may or may not be in excess, but the simplicity of the con-

trivance, the small number of moving parts, the lightness of the strain of the load on any one bearing point, thus allowing lighter bridges and roadway, will probably lessen these expenses, and a tube once laid and roofed in, will be as permanent a fixture as a station house through which the trains run.

Of the rates of speed attainable. — Any rate of speed below that at which air rushes into a vacuum, can be obtained, but for the present, limiting the speed to 100 miles per hour, it can be shown that to move at that rate between New York and Boston, two 100 horse-power engines would suffice at each end. The operation would be as follows: Suppose the train nearly ready to start; the regulator valve would be closed and in a few minutes vacuum enough formed to overcome the friction; the train would then start slowly, and regularly increase its speed up to 100 miles per hour. On grades rising, this speed would be reduced from the same cause as with the locomotive, on reaching the grade, the speed would again increase so much as to require the regulator valve to be partly opened or breaks used. It would probably be best to distribute the power so as to operate the high grades separately. The sleuing of the train either by brakes or by the valve would be easily managed, but the opening of the valve would cause a loss of vacuum and of the power to obtain it, and it is a point requiring some remedy. The stopping may be easily managed in several ways so as to reduce the speed as gradually as may be necessary. Although it might seem that since the moving power was not on board the train, danger might ensue should the engineer lose control, it will be perceived that no greater speed can be attained than that at which the pumps are regulated, be it one mile or one hundred per hour; that any accident to the train would cause retardation, that the only case in which control of the train could be lost, would be if the valve in the piston should get jammed fast, a case analogous to the regulator of a locomotive getting jammed open, and quite unlikely to happen, and impossible with two valves, and finally should the piston give way, the passengers would find themselves sitting in a lighted room with a violent gale blowing through it which they could avoid by going out the nearest door.

Leakages and Repairs. — With pressure of one lb. per inch, equal to a head of about two feet of water, the joints of the tube could be kept tight as well as a flume; if the outside were protected from wet and the iron bands made to key up. The valves on the sides, of india rubber or of metal, would screw down air-tight into their seats. For the expansion of the tube lengthways, slip joints or india rubber at the end of the staves might be used. The leakage of the leather collars of the pistons running on a greased surface, would be run at high velocities without heating. If the tube were laid dry and roofed, it would not require outside repairs, and the wearing of its inner surface would be slight, either from

the sliding of the piston or the rolling of the wheels, which would have india rubber tires. The only parts of the machine exposed to much wear would be the packing of the pistons and the boxes of the wheels.

The tube would require all roads to be passed over, or under it, and all streams to be passed beyond mast navigation or by high bridges. At important stations the train might be run out of the tube, especially if the power were distributed along the line, which it probably would be for local lines, and in such cases some method of backing the train would be desirable. This and other devices may safely be left to ingenious mechanics to supply, as the wants arise; as this communication is only intended to point out those features of the project which recommend it to attention, namely, its economy, safety and capabilities for speed.

T. McDonough.

ARTICLE IV.

Cost of Repairs of Locomotives.

BY ZERAH COLBURN.

The question is often asked by railroad men if an engine cannot be repaired and renewed so as not to become depreciated through constant and continued service. Undoubtedly it may, but which is cheapest; to renew all the parts of an engine when nearly all are worn out, or to purchase a new engine? A little consideration will give some force to this inquiry.

In the first place, master mechanics will admit, that, *in the manner* in which repairs are generally conducted on roads where from 6 to 8 cents per mile is allowed, an engine after twelve years use is sensibly depreciated in value, say one-half. The average run of passenger engines being say 25,000 miles per year, the repairs, at 8 cents per mile, amount in 12 years to $24,000, while the engine is $4,500 less valuable then when new. Thus, an engine costing $9,000, requires $28,500 to keep it good for twelve years, a sum more than *three times* its original cost; while its boiler shell, outer fire-box, cylinders and frames, have not been renewed nor materially repaired. It cannot be said that the engine has been *renewed* three times as its most essential parts are left remaining. It is, however, proper to say that the tires have been renewed four or five times, and the *trucks* twelve times. The cost of these is perhaps $5,000 for the given period. There are very few of the remaining heavy parts which are renewed over

three times in twelve years; while several of the most important parts are not renewed at all. The plain inference is that repairs and renewals, by the manner in which they are conducted, cost much more than the orginal construction of the same portions of the work; perhaps twice as much, a proportion which, upon consideration, will be generally admitted as correct.

If the machine is so run that its entire construction decays at about the same time;—if it wears out twelve setts of trucks; four setts of tires; four setts of packing; and two setts of tubes and tube sheets, in twelve years, and if, which is probable, the boiler, frame and cylinders be worn out also at that time, what is left of the engine? If it can be again made good is it not *rebuilt*, and essentially a *new machine?* If rebuilt at the repair shop, and some of the older parts are worked in, does the engine when completed, cost less than a new one from an established builder; and considering the entire reliability of the latter, in every part, is any thing saved even in rebuilding? The question of keeping an engine *good*, assumes there will be no essential improvements, affecting the general construction of the engine, and this matter is not therefore considered. It is well worth considering however.

The necessary repairs are increased with the age of the engine, as successive parts are attacked, each year, which were not embraced in the renewals of the previous year. This is evident in reason, although there are several circumstances which, although they do not affect the principle, serve to conceal it. In the first place the repairs of the light engines built from eight to twenty years ago could not consistantly require the same outlay, per mile run, as the heavy engines of more recent construction. Such engines are generally considered, where they are owned, as not so well *worth* repairing as newer and larger engines, and hence are not the objects of as much expenditure for preservation. Again, such engines are but little used, being for the most part kept in ordinary, or for shifting out trains, ballasting, &c.

The example of the Baltimore and Ohio railroad, having the *largest* and the *oldest* equipments of engines of any road in America, may be useful in considering the cost of repairs. This road has, by its report of September 30th, 1853, 167 locomotives; 157 of which are running between Baltimore and Wheeling. Some of these locomotives are 19 years old, although the majority are of recent construction.

The following table shows the cost of repairs per mile, for each class, of each year's construction of engines in use on the "Main stem" of the Baltimore and Ohio railroad, during the years ending Sept. 30th of 1852 and of 1853. The repairs for 1852 did not reach a high figure, but the figures serve to show the gradual increase of cost of preservation as we go back to the older engines. The repairs for 1853 show this in a stronger light.

Year of Reception.	No. of Engines received during year.	Class. No. 1.	No. 2.	No. 3.	No. 4.	Average cost of Repairs per mile for year ending Sept. 30th, 1852.	Do. Do. for the year ending Sept. 30th, 1853.
						cts.	cts.
1834	2				2	1,88	6,64
1835	3				3	6,35	6,35
1836	5				5	4,01	6,15
1837	2				2	4,82	6,96
1838	6			3	3	3,65	6,38
1839	6			2	4	4,24	11,31
1840	2		1	1		21,62	6,00
1842	2			2		8,74	6;02
1844	4	4				5,82	22,02
1845	3	2	1	1		8,41	7,70
1846	8	6	1	1		11,92	10,18
1847	3	1	1	1		5,36	9,44
1848	11	8	2	1		6,40	18,90
1849	2	2				9,88	17,32
1850	6	6				4,51	13,22
1851	15	15				4,64	13,00
*1852	23	19		4		3,29	
1852	36	32		4			8,55
1853	43	37		6			†7,82

This table I have prepared with much care from the company's reports, and considering the extent of motive power to which it applies, and the time over which it extends, it is believed to be of considerable value as an illustration of the influence of age on repairs. Some facts may serve to place its deductions in a better light. The first class engine of 1853 is very much larger than the first class engine of 1848, and sustains much greater wear. Again, in 1853, the formidable passage of the 116 feet grades had begun to exert a new and marked influence on repairs. And, still further, the old repair shops had been destroyed by fire, aud not only had new ones been built to replace them, but others had been built at other points, by which the repair force was divided, the facilities not so well developed, and the expense of repairs increased. The high price of iron and the "labor strikes" at Baltimore, last spring,

* Up to September 30th, 1852.
† Not including alterations of three *new* engines.

have both influenced the cost of repairs. The repairs of passenger engines have been influenced by the necessity of higher speeds, and by a general adaptation for burning *coke*, which has cost much money for arranging the engines, and in repairing for the increased destruction of the furnaces and tubes by reason of a more concentrated heat. A great many of the causes stated have operated especially against the engine delivered in 1852 and 1853.

It may then be stated, as a general principle, that the repairs of each year must not only embrace the renewals of previous years, but of parts not before renewed at all, so that the cost of repairs increases by an annual arithmetieal progression up to the time of the decay of the most enduring parts; when, with the usual mode of conducting repairs, a new engine becomes cheaper than rebuilding.

It is therefore an object in making repairs to bear in mind the probable duration of the most enduring parts, so that a large quantity of new work may not embarrass the final disposition of a *worn-out* engine. "No man putteth a piece of new cloth unto an old garment," &c.

The question which I have raised is not that of the propriety of rebuilding under any circumstances, but of rebuilding as a recovery from the effects of gradual and total decay. With some patterns of engines they well deserve rebuilding before they leave the maker's hands; while again, the adaptation of engines, or the results of a collision or explosion, may properly warrant a general rebuilding.

The cost of repairs of locomotives is influenced by many considerations. The physical features of the road, nature of traffic, character of wood, water and attendance, character of original materials of construction, mechanical arrangement of engine, &c., are all influential in the necessity for repairs. A track kept in good line and good grade; a business not beyond the proper capacity of the engines, either in weight or length of run; seasoned wood, clean water, skilful and careful engineers; the best quality of materials, especially in the boilers and furnaces, where renewal is attended with the greatest expense; the outside connected arrangement of locomotive, properly constructed; and, above all, a safe system of despatching trains, and safe roadway structures, are the most favorable points for economical repairs.

The cost of engine repairs on several roads are exhibited in the following list.

Name of Road.	Miles run.	Cost of Repairs.	Repairs p. mile run. cts.
N. York & Erie, 1852,	2,389,271	$203,312 48	8½
N. York & Erie, 1853,			

Union R. R.	114,825	15,795 86	13¾
Eastern Division	746,627	73,657 04	9⅞
Delaware	569,448	72,669 11	12¾
Susquehanna	703,384	74,055 21	10½
Western	656,225	52,467 09	8
Totals	2,790,509	$288,644 31	10⅓
Baltimore & Ohio, 1852,			
Main Stem	1,515,784	$73,078 45	4,8
Wash. Br.	102,133	8,259 21	8,1
1853. Main Stem	2,009,446	194,036 13	9,6
Wash Br.	191,382	15,376 18	8,0
Reading R. R., 1852,	1,517,931	99,027 40	6,5
Penna. R. R., 1852,	663,991	32,630 07	4 11-12
West. & Atlantic R. R. 1853,	264,485	12,387 79	4,7
Little Miami R. R. (Ohio)			
1852	507,731	46,917 94	11,5
1851	301,640	23,143 90	7,7
1850	274,303	26,181 06	9,5
1848	189,606	15,959 66	8,4

The repairs of engines of the Boston and Maine and Fitchburg Railroads, for the year 1852, were about 5 cents per mile run, each. Those of the Boston and Worcester road were about 8,4 cts per mile run. On the latter the engines had been previously suffered to "run down," and a greater expense than usual was incurred to restore them to a good condition.

In drawing any inference from the preceding table, some particulars of the age and extent of the respective equipments may be proper to be given.

The engines of the Philadelphia and Reading Railroad were delivered as follows.

4 3d class	in 1838		8 1st class	in 1847	
2 2d "	" 1840		1 4th "		
2 3d "	" 1841		1 1st "	in 1848	
2 1st "	" 1842		3 2d "		
5 2d "					
10 2d "	" 1843		3 1st "	" 1849	
8 1st "	" 1844		10 1st "	" 1850	
7 1st "	" 1845		4 1st "	" 1851	
18 1st "	" 1846		1 4th "		
1 4th "			13 1st "	" 1852	

Total 103 engines.

Pennsylvania Central Railroad.

9 engines	in 1849	3 engines	in 1851.
14 "	" 1850	17 "	" 1852.

Total 43 engines.

New York and Erie Railroad.

9	engines	previous to	1848	31	engines	in	1850
9	"	in	1848	53	"	"	1851
29	"	"	1849	11	"	"	1852

Total 142 engines on broad gauge, besides 8 engines on the Union Railroad.

The date of the reception of the Baltimore and Ohio Railroad engines has been previously given, the number of their engines bieng 167.

The transportation effected by the equipments of the different roads being different, has a separate influence on repairs in each case. Of the roads named, the *Erie* has the largest passenger traffic, which involves the heaviest repairs of engines. The Baltimore and the Ohio road has the most severe physical features, and although from this fact and the preponderance of the freight business, the average run of each engine is less in miles per year, there is no doubt but that each engine is subjected to as great influence of wear as upon the Erie road; the passenger business of the latter being excepted. The time during which the engines are daily under steam is as great on the Baltimore and Ohio road as on the Erie. A fair comparison of the expense of engine repairs would then be as follows; the average expense of repairs for each engine for the year ending September 30th, 1853, was, for the Erie road, $1,924; for the Baltimore and Ohio $1,254; for the Reading road [for the year 1852] $961 43.

The Baltimore engines are subject to heavier repairs on furnaces and tubes, owing to the use of coal fuel, but to much less expense in consequence of using the outside connected arrangement of engine, the cast iron slip tire [which saves the company $30,000 per year,] to the equal distribution of weight in the engines, and to a greater degree of plainness and simplicity of construction.

The Reading road, although doing an enormous business and subject to the expenses attending the use of anthracite coal, has adopted very nearly the same system of motive power; has its repair force concentrated at one point; and has the advantage of favorable grades, by all of which, its repairs, considering the age and service of its equipment, are very cheaply made. Both the Baltimore and Ohio and the Reading roads are of the narrow gauge, and the economy of its operation, taken with that of the outside connection, the cast iron wheel and tire, and the equal distribution of weight, are in accordance with the general conclusions which have before been made for this system of application of motive power.—[*Amer. R. R. Journal.*

MINES AND MINING.

PITTSBURG COAL TRADE.

By H. Haupt.

The coal trade of the city of Pittsburgh, and its vicinity, is one of the most important sources of its wealth, whether we regard it for its intrinsic value, or for its influence in sustaining the great manufacturing interests of that vast workshop, of which Pennsylvania is justly proud. It is yet in its infancy. The extent can hardly be estimated with accuracy. We may approximate to a judgment of what it will be in a few years, when the present system of internal improvements shall have fully developed the resources of the country, by a calculation of its present extent. Its adaptation to the manufacture of iron in all its forms, is just beginning to be felt. Its value for generating steam is hardly yet realized — and in this age of progress, when days and weeks are compressed into minutes, the value of this source of power, of the almost infinite millions of tons of coal in our western coal fields can hardly be appreciated.

It is difficult to get a precise measure of the coal trade of the city of Pittsburgh and its vicinity. Perhaps the most accurate way to make an estimate of the quantity and value of this trade will be to average it under its different heads of supply and use, and we will then have figures founded upon a statement of facts which will be easily understood by any person the least conversant with its use and the general result of which will commend itself to all. For this purpose the coal trade of Pittsburgh and its vicinity may be divided into four general classes:—

First, that which is used for domestic purposes.

Second, that which is used for manufacturing purposes.

Third, that which is used for generating steam on the boats, and in and about the city for steam engines.

Fourth, that which is exported.

First, then, that which is used for domestic purposes. This is supplied mainly by retail dealers, and is distributed among the people in carts and wagons from the pits in the neighborhood, and from *flat boats* on the Allegheny and Monongahela Rivers, in which it is brought to the city from a distance of five, ten and even twenty miles; and when I speak of Pittsburgh here, I mean it and the City of Alleghany and the villages adjacent for three or four miles round the junction of the Alleghany and Monongahela Rivers.

The population of this portion of country may be safely estimated at one hundred and fifty thousand persons. This, at the rate of five persons to each family [which is, I believe, the usual allowance] would make for the district thirty thousand families. I then assume that each family will burn three fires through the year [in this is included stores, shops, offices and all places of business, as

well as dwelling houses, and at this rate it would be perfectly safe to allow for each family four hundred bushels of coal per year. This estimate would make the consumption of coal for domestic purposes amount to the sum of twelve millions of bushels per year.

The next item, is the amount of coal consumed for manufacturing purposes. I give below the data upon which I found my estimate; and as I have taken considerable trouble with it, I think it may be relied upon as correct.

There are in the City of Pittsburgh and its vicinity seventeen large Rolling Mills, and these would consume while running, on an average fifteen hundred bushels of coal per day; which would give an aggregate of 25,500 bushels per day. And supposing each Mill to run 250 days in the year, the annual consumption would be [6,375,000 bushels,] six millions three hundred and seventy-five thousand bushels.

There are in the same bounds, twelve principal or large Foundries, and these with the engines used in them would consume about [150] one hundred and fifty bushels each per day, making a daily consumption of [1800] eighteen hundred bushels, and at 300 days per year would give a yearly consumption of [540,000] five hundred and forty thousand bushels.

There are twenty Glass Houses, each of which would consume about [100] one hundred bushels per day; making a daily consumption of [2000] two thousand bushels per day, and a yearly consumption of [600,000] six hundred thousand bushels.

These twenty engines and machine shops, which, with their engines, forge fires, &c., will consume each one hundred bushels per day, making a daily aggregate of [2000] two thousand bushels, and a yearly consumption of [600,000] six hundred thousand bushels.

There are five large cotton factories which consume yearly, about [100,000] one hundred thousand bushels.

The gas works of the two cities consume about [200,000] two hundred thousand bushels per year.

The public buildings, including hospitals, jail, penitentiary, court-house, banks, churches, &c., consume about 200,000 bushels p. year.

The water works and Alleghany arsenal, will consume about [150,000] one hundred and fifty thousand bushels per year.

There are then from one hundred to one hundred and fifty other steam engines used for various purposes, which it would be almost impossible to specify, for instance, for flouring mills, oil mills, saw mills, planing mills, tanneries, stone cutting establishments, &c., &c., which would consume each 20 bushels per day, or an aggregate of 3000 bushels per day, making a yearly consumption of [900,000] nine hundred thousand bushels.

Next we have the steamboats which daily leave the wharves of the two cities and consume coal. For these we may safely estimate that there are eight boats leave the wharf daily during seven months of the year, during which there is constant navigation of the rivers—and in this is included the various boats of all classes. During a large portion of the year there are this number of boats on the Ohio alone daily, some of which take as much as [1,500] fifteen hundred bushels each, so that this estimate is fully within the limits; and i

will be moderate to allow for each boat [500] five hundred bushels per day which makes a daily demand from this source of 4000 bushels, and for two hundred and ten days consumption it would require [840,000] eight hundred and forty thousand bushels per year.

By adding the foregoing amounts, we have as follows :

For Domestic uses	12,000,000
" Rolling mills	6,375,000
" Foundries	540,000
" Glass Houses	600,000
" Engine and machine shops	600,000
" Cotton Factories	100,000
" Gas works	200,000
" Public Buildings	150,000
" Miscellaneous Engines, &c	900,000
" Steamboats	840,000
Total for home consumption	22,305,000

Twenty-two millions three hundred and five thousand bushels.

The next item is the amount of coal exported; and that is made up of what is taken to Cincinnati, Louisville, New Orleans, and other places on the Ohio and Mississippi Rivers.—This is chiefly sent down in flat boats, which are floated down the Rivers in times of high water, each boat containing from eight to twelve thousand bushels, and drawing from seven to nine feet of water. During the last year a large amount of coal has been taken to Cincinnati in barges, towed by a steamboat. For a part of this we have an accurate account in the statement of the Monongahela Navigation Company [a copy of which I send you]. By it you will see, on page 9, that the amount of bushels of coal that was taken through locks in boats was [9,903,921,] nine million nine hundred and three thousand nine hundred and twenty-one bushels in the year A. D. 1852. This was all for export.—[That in boats is for city or home consumption,] which you will see amounts to nearly five million bushels, and which, of course, is a part of the former estimate for domestic consumption.

There is then a large amount of coal loaded below the locks, and of which we can have no official statement, and I suppose I will be below the amount when I say it will amount to four million bushels per year.—There is also some Pittsburg coal sent to Cleveland and Philadelphia, but that trade is yet in its infancy, and its importance will not be felt until, as I said before, the business of our railroads gets to be permanent and fixed, and then it may be almost beyond computation. At present, I suppose one half of a million bushels would cover the amount.

We have then the following amount :

Amount of coal consumed in and about the City of Pittsburg	22,305,000
Amount of coal exported from Pittsburg to other places	14,403,921
Total	26,708,921

[U. S. Mining Journal.]

THE COAL TRADE OF GREAT BRITAIN.

The London "*Times*" gives the annexed statement relative to the coal trade of the united kingdom of Great Britain. It will be interesting to those engaged in this trade on this side of the Atlantic :

"To such an extent has our coal industry been developed that at the present time not less than 37,000,000 of tons are annually raised, the value of which at the pit's mouth is little less than £10,000,000; at the places of consumption, including expenses of transport and other charges, probably not less than £20,000,000. The capital employed in the trade exceeds £10,000,000. About 400 iron furnaces of Gr. Britain consume annually 10,000,000 tons of coals and 7,000,000 tons of ironstone, in order to produce 2,000,000 tons of pig iron, of the value of upwards of £8,000,000. For the supply of the metropolis alone 3,600,000 tons of coals are required for manufacturing and domestic purposes; our coasting vessels conveyed in 1850 upwards of 9,360,000 tons to various ports in the United Kingdom, and 3,350,-000 tons were exported to foreign countries and the British possessions. Add to this that about 120,000 persons are constantly employed in extracting the coals from the mines, and that in some of the northern counties there are more persons at work under the ground than upon its surface, and some approximate idea will be formed of the importance and extent of this branch of our industry. The extent of the coal areas in the British Islands is 12,000 sqaure miles, the annual produce 37,000,000 tons; of Belgium, 250 miles, annual produce 5,000,000 tons : of France, 2 000 miles, annual produce 4,150,000 tons; of the United States, 113,000 miles, annual produce 4,000,000 tons; of Prussia, 2,200 miles, annual produce 3,500,000 tons; of Spain, 4,000 miles, annual produce 550,000 tons; of British North America, 180,000 miles, annual produce not known. Taking the British Islands alone, and dividing them into districts, we find the supposed workable area as follows, in acres :—Northumberland and Durham, 500,000; Cumberland, Westmoreland and West Riding, 99,600; Lancashire, Flintshire and North Staffordshire, 550,000; Shropshire and Worcestershire, 79,950 ; South Staffordshire, 65,000; Warwickshire and Lecestershire, 80,000; Somersetshire and Gloucestershire, 167, 500; South Wales' 600,000; Scottish coal fields, 1,045,900; Irish coal fields; Ulster, 500,000; Connaught 200,000; Leinster, 150,000; Munster, 1,000,000. Our exports, which in 1840 amounted to 1,605,000 tons, valued at £576,000, had increased in 1850 to 3,561,000 tons of the value of £1,284,000. In 1841 our exports to France were 451,-300 tons ; to Holland,173,378 tons ; to Prussia, 116,296 tons; and to Russia, 77,152 tons. In 1850, they were to France 612,545 tons; to Holland, 159,953 tons; to Prussia, 186,528 tons, and to Russia, 235,-188 tons.—[*U. S. Mining Journal.*]

GOLD MINING IN NEW MEXICO.

The *Santa Fe Gazette* has the following article on the subject of "gold mines and mining" in New Mexico:

"We have on two or three occasions recently referred to the Placer mines, and to some test experiments which were being made there. Since then we have heard enough to authorize us to state with certainty that the experiment so far has been completely successful, and that the prospects of an ample remuneration for an outlay of capital are most flattering. As the result of four days' operation and the labour of two mules, we have been shown gold to the value of about ninety dollars, which as all persons acquainted with the operations of the *towners*, as the clumsy mills in general use among the Mexicans are called, affirm, is not more than half to the actual amount of gold in the rock. It must be recollected, too, that twice the amount of ore [metal as it is technically termed] could be crushed, and every particle of gold separated in one hour by many of the crushers now in use in the United States, as has been operated upon to procure the gold we have mentioned above.

One very beautiful specimen, in weight 2 oz. 18 dwt. 1 gr., has been left with us, and is at the inspection of the curious in our office.

This experiment was commenced more to satisfy the proprietors of the mine whether they would be justified in an extensive outlay of capital and labor upon them, than to induce others to join them in the enterprize, and we have it on the best authority that such satisfaction is entertained with the experiments thus far, that a competent machine has been ordered from the States.

The body of mineral at the Placer is inexhaustible, and of a richness rarely equalled. The opinion of one of the proprietors is, that with proper machinery the yield will be about sixty-six cents to the bushel, and we know that a mine in North Carolina is now being worked very profitably on a yield of sixteen cents to the bushel.

Another great advantage possessed by the placer mine over the quartz mines of California and elsewhere, is the greater softness of the ore. In fact, if, as we know by Commodore Stockton's certificates, one of "Cochran's crushing machines" is capable of pulverizing quartz and sandstone at the rate of three and a half tons per hour, we should be of opinion that the same machine would be able to crush from four to five tons of this ore in the same length of time.

We hope soon to see large operations at the Placer, and confidently predict a rich return for any judicious outlay."

Professor J. J. Mapes on the Manufacture of Wrought Iron, Direct from the Ore.

Iron, as it exists in ores, is combined with oxygen in the form of oxide of iron, and the whole process consisted in the treatment of this ore, in various kinds of furnaces, by heat, so as to dispel the oxygen and form the molten mass composed of carbon and iron, and known as *cast iron*. Under this mode of treatment it is true that the oxygen may be got rid of, but so high a heat is required during the deoxydizing process that it can only be maintained by the presence of a portion of atmospheric air, and hence the surface of the molten mass was continually undergoing reoxydization, and this newly formed oxide combining with the impurities of the ore, causes much of its quantity to be converted into a slag. It also entangles itself with a quantity of carbon, and occasionally with slag and other impurities. When in its finished form, and delivered in pigs as cast iron, it was a combination or mechanical admixture of iron and carbon, and known under the name of *pig iron*. To transform this into wrought iron it was necessary to get rid of the carbon. This required a separate furnace, the use of new quantities of fuel, the wasting of new portions of iron as oxide, a large amount of power, a great expense for labor, and this second process for rendering pig iron into wrought iron was called *puddling*, and in this state Mr. Renton found the art of iron manufacture.

The idea of so treating the oxide of iron, or iron ores, as to deoxydizing them or separate from them their oxygen in the absence of atmospheric air, thus preventing the formation of new oxides, is not new. The proposition has often occurred, but has never been rendered practically applicable to its manufacture, until accomplished by the invention of Mr. Renton. The mode of operation may be thus described.

The ore is reduced by stamping to a powder, and after admixture with 20 per cent. of mineral coal, it is placed in the top of a chamber, from which descend tubes, and in which tubes this mixture is suffered to fall. The upper ends of the tubes are completely covered with the mixture. Their outsiders are surrounded with fire, or rather the excess heat of two furnaces after having performed other duties which I shall presently describe. The contents of the tubes are thus heated to such a degree as not to cause any melting of the particles of ore, or combination between them and the admixture of carbon. The oxygen, however, contained in the ore is found perfectly to combine with the carbon in the form of carbonic acid gas, which, when formed, expands five hundredths part of its bulk for each degree of heat added, and thus forces its way, by such expansion, through the interstices of the superincumbent mass, and escapes into the atmosphere above. When it has been subjected to this treatment for a sufficient length of time to rid it of its oxygen, but not at so high a heat as to cause a coalescence between the particles of iron and the carbon, it is permitted to descend into furnace approximating to this chamber. This it does in the powdered form, but at a red heat, and if received on the hearth at a white heat, this heat is insufficient to

cause a melting of the particles of iron now freed from oxide as in the furnace formerly in use, but entirely sufficient to cause a gradual welding of these particles with each other, without being imbued with carbon, the heat being insufficient to cause combination with silex or other impurities which may be present. All these, however, from their specific difference of gravity and moderate degree of heat, simply being that required to weld the particles, are separated on this first furnace hearth. At a proper time it is thrown over to hearth *No. one*, after having there been separated from the mass of useless matter with which it descended from the tube, it is further petrified with the ordinary puddling manipulations, and brought out to be placed under the trip hammer, to be formed into blooms of pure wrought iron. The fires which supply these two furnaces after performing their duty there, are found to be entirely sufficient, by the judicious application of their waste heat, to act upon the tubes for the *deoxydization* of the pulverized ore, and thus no separate fire is required for this action.

You will recollect that cast iron is a mechanical admixture of carbon and iron. Wrought iron is the product after the separation of the carbon.

The process of Mr. Renton is such as to commence with the oxide of iron, to free it of its oxygen, not to combine it with the carbon, and deliver it as pure wrought iron.

The processes before his improvement contained material faults. The amount of heat required to melt the mass for the purpose of getting rid of the oxygen, at the same time opened the ultimate pores of the iron, causing it to receive the carbon, and thus the product was cast iron.

In Mr. Renton's process, the absence of atmosphere in the deoxydizing tubes renders high heat unnecessary, and only so much is required as will weld the particles when placed upon the furnace hearths. Thus he avoids all difficulties of the older processes, saves the useless expenditure of fuel, and produces at one operation the final result, only attainable in the ordinary way by two distinct expenditures of fuel, labor, &c.; and entirely obviates the formation of new quantities of oxide during the manipulation of the mass.

Iron prepared by this process has peculiar advantages for being made into steel; it cannot but form steel of very superior quality, and from what I saw, I cannot doubt that the quality of this product is superior to that usually offered in the market as wrought iron.—[*U. S. Mining Journal.*]

COMMERCIAL RECORD.

It will be seen from the following table that the receipts of produce have been very light during the month, and as usual at this season of the year, there is but little doing in any department of business.

Table of the Leading Articles of Produce received at St. Louis, from the 16th day of December, 1853, *to 15th January*, 1854 inclusive.

Flour, barrels,	4,444	Molasses, barrels,	802
Wheat, sacks,	38,450	Salt, sacks,	6,950
Do. barrels,	326	Do. barrels,	1,322
Corn, sacks,	11,069	Coffee, bags,	5,337
Oats, sacks,	19,288	Pork, barrels,	101
Barley, sacks,	1,240	Meak Bulk, pieces,	1,772
Lead, pigs,	1,181	Do. casks,	264
Tobacco, boxes,	21	Do. tierces,	361
Whiskey, barrels,	1,086	Lard, tierces,	1,006
Sugar, hogsheads,	3,243	Do. barrels,	156
Do. barrels,	1,079	Do. kegs,	18
Do. boxes,	2,259	Beef, barrels,	32
Do. Sacks,	1,121	Hides,	838

Duties paid on foreign imports at the port of St. Louis, from 16th December, 1853, to 15th instant, inclusive, $44,610 75.

No important changes have taken place in the prices of produce, either at home or abroad, during the month; but we remark that the changes which have occurred are generally in favor of the producers and holders.

Flour.—At the date of our last report we quoted country superfine at $5,37½ to $5,40; and extra $5,62½ to $5,75 per barrel. Owing to intelligence deemed unfavorable from the South and East, and to the difficulty of shipping, a decline of 25 to 30 cents took place about the 16th and 17th of December. This depression, however, lasted but a few days; and on the 28th sales of second brand city mills were made at $5,75 and $5,80 per barrel, and on the 29th a sale of extra was reported at $6,00 per barrel.

There has been scarcely any demand for shipping since the christmas holidays, but prices have nevertheless slightly advanced for home consumption. We now quote country superfine in lots of from 50 to 100 barrels at $5,75 to $6,00, and city extra at $6,50 to $7,00 per barrel.

At *New Orleans*, on the 13th instant Ohio flour was quoted at $6,-80, scarce.

At *New York*, on the 14th sales of State $7,93 to $8,00; Ohio and Southern $7,93 to $8,06.

At *Liverpool*, on 28th December, western canal flour was quoted at 37*s*. 6*d*.; Baltimore, Philadelphia and Ohio at 37*s*. 6*d*. to 38*s*.

Wheat.—We quoted wheat on the 15th ult. for good red and white at $1,10 to $1,16 per bushel. On the 16th there was a decline of about five cents per bushel; but prices rallied again in a few days; and have been tolerably uniform with a slight advance to the present date. Good red may now be quoted at $1,15 to $1,18, and prime at $1,20 per bushel, sacks returned. Nearly all the city mills have suspended operations.

At *New York*, on the 14th inst. sales of Genessee wheat at $1,92½ to $2,05 per bushel. Export demand large.

At *Liverpool*, on 28th December, white wheat was quoted at 10*s.* 4*d.* to 11*s.*; red at 10*s.* to 10*s*, 6*d.*

Corn.—We quoted corn, on the 15th ultimo, at 40 to 43 cents per bushel, sacks returned. From that date it began to decline slightly, and we notice small sales, on the 3d instant, at 37½ cents, sacks included. The article at this date is very dull, and we quote good yellow and prime white at 35 to 38 cents per bushel.

At *New Orleans*, on 13th instant, we notice a contract for 150,000 at 53 to 55 cents deliverable in March and April.

At *New York*, on the 14th instant, we notice sales of mixed at 89 cents, and yellow at 90 cents per bushel.

At *Liverpool*, on 28th December, white Indian corn is quoted at 46*s.*; yellow 45*s.*, and mixed 44*s.* 6*d.* for quarter.

Tobacco and Hemp. — There is not sufficient doing in tobacco to authorize quotations. The stock of hemp is estimated at about 1,300 bales: market quiet. The last sales quoted at $120 to $125 per ton. The following extract from Morris & Co.'s circular for December will show the state of the hemp trade at New York, at the close of this year.

"With a fair demand for American Hemp during the past month, the year has closed with better prices for this important Western Staple, than we have had occasion to report since 1849; while every thing promises well for the coming season, as far as it is, at present, possible to foresee.

The stock, as reported in our circular for December, consisted of:

Undressed - -	1134 bales	Dressed - -	454 bales
Arrived since -	2570 "	Arrived since -	632 "

The month's sales embrace 1869 bales undressed, at $170 a $185, (a very choice lot commanding $190); and 614 bales dressed, at $200 a $210 for medium; $215 a $220 for fine, and $230 a $250 for extra fine hand dressed, leaving our present stock—

Undressed - - 1835 bales | Dressed - - 472 bales,

held for outside, and advanced quotations. The receipts of American hemp at this market for the past three years have been as follows:

1851.	1852.	1853.
15,305 bales.	7,772 bales.	15,078 bales.

Russian Hemp. — In the absence of any receipts of importance to increase our stocks, prices have again advanced, the last sales having been made at $290, and the small quantity still upon the market is now held for $300. Yarns are scarce and in demand, and have sold as high as 14 c.

Imports of Russian hemp and yarns from January 1st to December 31st:

1853 - - -	635 tons hemp	- -	1228 tons yarns.
1852 - -	2718 " "	- -	1576 " "

The stock of foreign Hemp in London, December 1st, 1853, was 9,538 tons, against 12,774 tons, at the same date in 1852, and the price of clean Russia there, at our latest dates, was £36 against £38 a £39 at the corresponding period last year."

Lead.—Prices have been quoted uniform since our last report. The quantity in first hands is estimated at about 25,000 pigs, last sales reported at $6,30 to $6,35.

Hogs and Pork. — There has been but very little change in the price of hogs since the beginning of the season. Prices have at no time exceeded $,4,25, except perhaps in a few instances, for small lots of extraordinary quality. The last sale we find reported was of a lot of 300 or 400 head on the 13th instant at $4,25 to $4,30 per 100 lbs. dividing on 200 lbs. Pork, mess quoted nominally at $11,50 to $12,00 per barrel. At *New Orleans*, on the 1sth inst., buyers were offering $13,00 per barrel for mess deliverable in February, holders were asking $13,50 to $14,00. At *New York*, on the 14th, sales of mess reported at $14,00 per barrel.

Freights and Navigation. — Owing to low water and obstructions in river navigation by ice, freights have been irregular since our last report, and quotations could only be regarded as nominal. Indeed navigation has been suspended, except a few chance arrivals, since about the 20th December. The last arrival from the Missouri river was reported on the 18th December ; the last from the Illinois and from Keokuk on the Upper Mississippi on the 20th; and the last boat from Louisville on the 22d of December. On the same day one boat arrived from Cap-au-gris. There has been no arrival from New Orleans since the 30th, and none from Cairo since the 6th instant. Since 11th inst. there has been no arrival from Alton, and the ferry boat which had continued to struggle with the floating ice until yesterday evening, is unable to cross to-day, the ice being closed across the river.

Coastwise and Foreign Freight. — We have no change to note in the rates of coastwise freight since our last report. We have quotations of freights from New York to foreign ports on the 13th instant. To Liverpool: Grain at 11*d.* to 12*d.* in bulks and ships bags. Cotton at 5-16 to 3-8. From New York to London : Wheat 15*d.*; Flour 4*s.* 9*d.*; Tobacco 35*s.* measurement. To Havre: Flour 95 cents per brl.; Wheat 24 cents per bushel. To California : Pork $3.50 per barrel.

Money and Exchange. — There is no peculiar feature to notice in the money market, and though not abundant, money may be regarded as in fair supply for the season. Sight exchange on New York continues unchanged at ½ premium, and at par on New Orleans and Cincinnati. On the 13th instant, at New York, *Foreign exchange* was heavy, the supply of bills being larger than the demand. Sterling quoted at 109 to 109¼, and francs at 5.17½ to 5.20.

The gradual increase of about $1,000,000 a week, in the amount of loans by the New York city banks, commencing on the 12th of November continued to the 31st of December, when the amount for the week reached $90,115,549. There was but a slight increase in the loans for the week ending on the 7th instant; but an increase of $1,-977,235 in the amount of deposits; of $154,068 in the amount of circulation; and of $517,953 in the amount of specie. The following is a weekly statement of the condition of the New York city banks since the 3d of December, 1553.

	Loans.	Deposites.	Circulation.	Specie.
Dec. 10, 1853	86,708,028	57,739,076	9,075,704	12,493,760
Dec. 17, 1853	87,865,073	58,312,478	8,930,830	12,166,020
Dec. 24, 1853	88,766,402	58,154,302	8,872,764	12,074,499
Dec. 31, 1853	90,115,549	59,858,127	8,921,858	10,988,171
Jan. 7, 1854	90,133,887	69,835,362	9,075,926	11,506,124

National Finances. — There was redeemed of the United States loan from the 3d of December to the end of the month, $1,937,399,-70. Leaving the outstanding debt of the United States $54,398,757,-52 at the beginning of the current year. On the 30th of September, 1853, the balance in the treasury was $28,217,887 78, which had been reduced to $23,118,000 on the 26th December. The amount redeemed at the treasury in the last week of the month, was $491,-800.

The amount of coinage at the several mints during 1853, has not yet come to hand, but from what is known it may be set down at about $56,000,000. In matters relating to commercial finance, the New York city banks, the United States treasury, and the Mint, are to be regarded as important points of observation. But we should not confide too much in the favorable aspects which they now present. For if the excessive importations of foreign merchandize should continue, we are persuaded that it will not be many months before the banks will be compelled to return to the restrictive policy of last summer.

With the hope of adding to the usefulness of this department of our Journal, we have concluded to publish a semi-monthly table of prices of the leading articles of produce and imports at this market. And here we beg to remark that the "*Commercial Record*" is an experiment involving a considerable amount of labor, and as we have had no experience in collecting and arranging matter for such a department, we should be obliged to any of our commercial patrons if they would favor us with their views upon the subject. It may be that such a record though skillfully made up may not be regarded as useful; if so, our patrons will confer a favor by making known their opinion. We have no time to bestow upon unprofitable objects.

Prices Current of Leading Articles at St. Louis on the 1st and 15th January, 1853.

	JANUARY 1ST.		JANUARY 15TH.
Barley, p. bushel, sacks returned,	60 to 62½	Nominal	60 to 62½
Cattle, per 100 lbs.,	5.25 to 5.75		5.00 to 5.50
Do. extra	6.00		5.75 to 6.00
Coffee,	12 to 13½		11½ to 12¼
Corn,	35 to 37	Last sales	35 to 38
Flax seed, bushel, packages returned,	1.35		1.35
Flour, bbl., country & city superf.	5.75 to 6.00	Country superfine	5.75 to 6.00
do. city superf. & extra, small lots			6.00 to 7.00
Gunnies, 2½ bushels, new,	13 to 14 c.		14 to 14½
Hay, prime Timothy, 100 lbs.,	75	Nominal	75 to 80
Hemp, ton,	$120 to 128	Last sales	1.20 to 1.25
Hides, dry, lb.,	12¼ to 12½	Nominal	12 to 12½
Hogs, for packing 100 lbs.,	4.00 to 4.10		4.00 to 4.25
Hogs, small lots to butchers,	4.25	No sales.	
Lard, No. 1 in barrels, lb.,	8 to 8¼	Nominal.	No sales.
Do. kegs,	9 to 9¼	"	"
Lead, lb., last sales,	6.35	Last sales	6.30 to 6.35
Molasses, gal.,	23 to 24	From store	24 to 25
Oats, bushel, nominal,	36		36½ to 37

Pork, Mess, barrel,	12 to 12.25	Nominal	11.50 to 12.00
Rye, bushel,	50 to 53	Sacks included	50 to 53
Salt, G. A., sack,	2.50 to 2.65	None in market.	
do. T. I., do.	1.45 to 1.50		1.50
do. Kenhawa, bushel,	50 c.	No sales reported.	
Sheep, head, as in quality,	2.50 to 3.25		2.50 to 3.00
Sugar, lb.,	3½ to 4¼		3¾ to 4½
Tobacco,	no sales	No sales.	
Wheat, bushel, sacks returned,	1.10 to 1.20	Sacks returned,	1.15 to 1.20
Whiskey, gal.,	20 to 20½	Dull,	19 to 19¼

STATEMENT of the Foreign Value of Goods, Wares and Merchandize Imported at St. Louis, and the Duties Collected, in the year ending Dec. 31, 1853, *viz*

	Duties Value.	Dut. Cl'ted.
Amounts during the first quarter, ending March 31, 1853	156,183 17	46,862 79
Amounts during the 2d quarter, ending June 30, 1853	332,869 24	101,783 10
Amounts during the 3d quarter, ending Sept. 30, 1853	170,330 50	57,493 45
Amounts during the 4th quarter, ending Dec. 31, 1853	257,892 50	83,121 10
	$917,275 71	$289,260 44
Also, foreign value and the duties thereon remaining in public store on Dec. 31, 1853	14,107 70	14,107 70
Also, entered for consumption, constructively warehoused, as follows, viz :		
Various goods, wares and merchandize	42,611 00	13,676 70
Sugars and molasses (part to arrive)	269,144 00	80,740 20
Railroad iron do.	193,843 00	59,861 50
	$519,705 70	$168,386 10

Of the foregoing statement of duties collected, the goods, wares and merchandise were imported from the following places, as follows :

England	487,750 88	134,965 67
France	47,855 40	38,616 48
Germany and Holland	79,500 48	23,670 14
Spain and certain of her Dependencies	96,248 00	29,053 90
Manilla and Matanzas	78,985 00	23,695 50
Pernambuco and Bahia	124,606 00	37,381 80
Various other places and ports	2,329 95	1,876 95
	$917,275 71	$289,260 44

The general description of said goods, wares and merchandise, in reference to the various foreign ports and countries, were as follows, viz :

From England—Hardware, cutlery, railroad iron, earthen, glass and china ware, tin, iron and copper, including dry and fancy goods in a small ratio.

From France—Brandy, wines, cigars, cordials, sardines, &c, but chiefly brandies.

From Germany and Holland—Fancy goods, patent leather, toys, and other articles in great variety.

From Manilla, Matanzas, Pernambuco and Bahia—Principally sugars and molasses.

From Spain and Dependencies—The same.

From various other placesand ports—Comprise almost every article of trade.

Hospital moneys collected were as follows, viz:

1st quarter of the year 1853	$526 28
2d " " "	769 37
3d " " "	715 63
4th " " "	776 25
Total amount	$2,787 53

Amount collected from passenger steamers, and for licences to Pilots and Engineers, under the act of Congress, approved August 30, 1852 $2,176 50

Amount expended for the relief of sick and disabled boatmen 4,000 00

Tonnage of steam vessels belonging to this District and remaining December 31, 1853, 36,714 23-95 tons.

N. B. — It is worthy of remark, to state in reference to the seemingly small increase during the year just closed, that there had been an accumulated tonnage reported heretofore, which was not abated for the lack of official information as to their loss and the manner thereof, which was deducted at the close of this year, and amounted to upwards of 10,000 tons.

The duties collected in the years 1849 to 1853, inclusive, were as follows, viz:

1849	$73,970 87-100	1852	$290 168 85-800
1850	175,001 17-100	1753	289,260 41-100
1851	239,318 68-100		

N. B. — The falling off of duties collected during the year 1853, compared with 1852, is consequent upon the detention of sugar, molasses and railroad iron destined to this port, under warehouse and transportation entries, attributable to the recent sickness, &c., at the original port of entry, and the continued low stage of water. Otherwise the aggregate of duties would have been nearly $400,000.

SYNOPSIS OF STEAM VESSELS PERMANENTLY ENROLLED IN THE DISTRICT-PORT OF ST. LOUIS.

		TONS. 95THS.		TONS. 95THS.
Aggregate of tonn. in	1846	10,238 07	remaining Dec. 31, '53,	199 70
" "	1847	16,999 41		2,867 06
" "	1848	8,031 33		2,446 26
" "	1849	6,396 76		1,773 63
" "	1850	6,587 79		4,809 06
" "	1851	5,737 61		2,092 26
" "	1852	9,375 01		7,996 03
" "	1853	9,285 07		8,257 86
		72,651 20		30,442 01
		Balance shows those no longer enrolled		42,209 10
as reported 11th January, 1854.				72,651 $\frac{20}{95}$

BANK REPORT.*

Aggregate Condition of the Bank of the State of Missouri and its Branches on the 31st December, 1853.

DR.

Bills Discounted		$1,917,519 57
Exchanges Matured		294,181 66
Exchanges Maturing		1,700,761 32
Real Estate		116,151 35
Bills Receivable		45,598 81
James L. D. Morrison, Agent		27,694 50
Louis B. Parsons, Agent		14,837 06
Suspended Debt		77,941 35
Due from Banks		152,781 21
Bank Notes on hand		282,570 00
Specie on hand		937,835 80
		$5,567,872 63

CR.

Capital Stock owned by the State	$954,205 22		
Capital Stock owned by individuals	261,200 00	1,215,405 22	
Due Depositors			1,312,510 75
Dividends unpaid			1,234 86
Interest and Exchange	242,539 08		
Less Expenses	$20,140 71		
Less Protest account	21 40	20,162 11	222,376 97
Contingent Fund			99,879 50
Due to Banks			228,835 33
Circulation			2,487,530 00
			$5,567,872 63

St. Louis, December 31, 1853. — A. S. ROBINSON, Cashier.

Condition of the Bank of the State of Missouri, at St. Louis, on the 31st Dec., 1853.

DR.

Branch at Fayette for capital	$120,958 84		
" Palmyra "	120,058 84		
" Cape Girardeau "	120,058 84		
" Springfield "	120,058 84		
" Lexington "	120,058 84		$600,294 20
Bills Discounted			1,093,439 80
Exchanges Matured			246,019 84
Exchanges Maturing			1,246,219 33
Real Estate			53,186 00
Bills Receivable			45,598 81
James L. D. Morrison, agent			27,694 50

* We learn that dividends amounting to 17 per cent. have been declared for the year—7 per cent. for the six months ending June 30, and 10 per cent. for the 6 months ending 1st Dec., 1853.

Lewis B. Parsons		14,837 06
Suspended Debt		9,557 24
Due from Banks		90,847 57
Bank Notes on hand of Branches		265,000 00
Specie on hand		595,412 44
		$4,288,132 70

CR.

Capital Stock owned by the State	$954,205 22	
Capital Stock owned by individuals	261,200 00	$1,215,405 22
Due Depositors		1,090,448 46
Dividends unpaid		1,234 86
Interest and Exchange, surplus 30 June, 1853	74,845 03	
Profits past six months	$122,999 72	
Less Expenses	11,816 65	111,183 07
Contingent Fund		186,028 10
Due to Banks		99,879 50
Circulation		133,426 05
		1,561,710 00
		$4,288,132 79

St. Louis, December 31, 1853. A. S. ROBINSON, Cashier.

Condition of the Branch of the Bank of the State of Missouri at Fayette, on the 31st December, 1853.

DR.

Bills Discounted	$163,566 11
Exchanges maturing	115,243 62
Real estate	18,496 08
Suspended debt	1,845 00
Expense account	1,731 55
Protest account	12 25
Due from Banks	33,286 95
Specie on hand	88,639 11
	$422,820 67

Fayette, December 31, 1853. WILLIAM C. BOON, Cashier.

Condition of the Branch of the Bank of the State of Missouri, at Palmyra, on the 31st December, 1853.

DR.

Bills discounted	$68,202 33
Exchanges maturing	195,455 28
Exchanges matured	1,224 25
Real estate	15,093 28
Suspended debt	22,378 11
Expense account	1,512 24
Protest account	17 30
Bank notes on hand	76,510 00
Specie on hand	52,359 06
	$432,752 35

CR.

Bank of the State of Missouri for capital	$120,058 84
Due depositors	42,473 13
Due to banks	52,505 06
Interest and exchange	10,595 32
Circulation	207,130 00
	$432,752 35

Palmyra, December 31, 1853. S. D. SOUTH, Cashier.

Condition of the Branch of the Bank of the State of Missouri, at Cape Girardeau, on the 31st December, 1853.

DR.

Bills Discounted	$211,255 00

Exchanges Matured	44,937 57
Exchanges Maturing	37,397 15
Real Estate	5,165 14
Suspended debt	12,030 83
Expense account	1,331 00
Protest account	18 00
Bank notes on hand	11,570 00
Specie on hand	66,108 22
	$389,806 91

CR.

Bank of the State of Missouri for Capital	$120,058 84
Due Depositors	51,021 44
Due to Banks	27,906 41
Interest and Exchange	9,280 22
Circulation	181,540 00
	$389,806 91

Cape Girardeau, December 31, 1853. ALFRED T. LACY, Cashier.

Condition of the Branch of the Bank of the State of Missouri, at Springfield, on the 31st December, 1853.

DR.

Bills Discounted	$195,803 92
Exchanges Maturing	6,938 67
Real Estate	9,704 00
Suspended Debt	19,370 17
Expense account	1,220 10
Due from Banks	26,335 21
Bank Notes on hand	6,000 00
Specie on hand	55,586 64
	$321,858 71

CR.

Bank of the State of Missouri for Capital	$120,658 34
Due Depositors	36,989 00
Interest and Exchange	6,320 87
Circulation	158,590 09
	$321,958 71

Springfield, December 31, 1853. JAMES R. DANFORTH, Cashier.

Condition of the Branch of the Bank of the State of Missouri, at Lexington, on the 31st December, 1853.

DR.

Bills Discounted	$185,251 91
Exchanges Matured	2,000 00
Exchanges Maturing	99,481 27
Real Estate	14,506 85
Suspended Debt	12,760 00
Expense Account	2,529 17
Due from Banks	2,311 48
Bank Notes on hand	19,270 00
Specie on hand	78,730 33
	$416,841 01

CR.

Bank of the State of Missouri for Capital	$120,058 84
Due Depositors	83,411 65
Due to Banks	15,097 21
Interest and Exchange	11,323 16
Protest account	20 15
Circulation	236,930 00
	$416,841 01

Lexington, December 31, 1853. C. K. MOREHEAD, Cashier.

DEPARTMENT OF INTERNAL IMPROVEMENT.

We are indebted to the *American Railroad Journal* for the following tabular statement of the Railroads in the United States embracing the number of miles open, capital stock paid, funded debt, total cost, gross and nett earnings, dividends, price of stock, &c. It is possible that the figures may not, in every instance, be strictly correct; but as there is no higher authority on the subject of railroads in this country we feel authorized to adopt these tables as approximating sufficiently near the truth for all practical purposes. We regret that our space does not admit of the judicious and well-timed remarks which accompany these valuable statistics, in the 'Railroad Journal.'

Statement showing the number of miles of railroad in operation in the United States, January 1st, 1854.

MAINE.

Name of Roads.	*Miles open.*
Androscoggin	20
Androscoggin and Kennebec	55
Atlantic and St. Lawrence	82
Bangor and Piscataquis	12
Ruckfield Branch	13
Calais and Baring	6
Franklin	9
Kennebec and Portland	69
Portland, Saco and Portsmouth	51
York and Cumberland	18
Total	335

NEW HAMPSHIRE.

Atlantic and St. Lawrence	52
Ashuelot	23
Boston and Maine	37¾
Boston, Concord and Montreal	92½
Cheshire	54
Cocheco	28¼
Concord	34½
Concord and Claremont	28¾
Contoocook Valley	14½
Eastern	16¾
Great Falls and Conway	12½
Manchester and Lawrence	26
New Hampshire Central	25½
Northern	81¾
Peterboro' and Shirley	10½
Portsmouth and Concord	47
Sullivan	24½
White Mountains	20
Wilton	15½
Total	646¼

VERMONT.

Atlantic and St. Lawrence	31
Connecticut and Passumpsic Riv.	61
Rutland and Burlington	119
Rutland and Washington	18½
Rutland and Whitehall	17
St. Lawrence and Atlantic	16
Vermont and Canada	47
Vermont Central	117
Vermont Valley	24
Western Vermont	53
Total	503½

MASSACHUSETTS.

Amherst and Belchertown	20
Berkshire	21
Boston and Lowell	27¾
Boston and Maine	83
Boston and Providence	53¼
Boston and Worcester	68
Cape Cod Branch	28½
Charles River Branch	12
Connecticut River	50
Dorchester and Milton Branch	3
Eastern	58
Essex	21¾
Fall River	42½
Fitchburg	67
Fitchburg and Worcester	18
Grand Junction	6¼
Harvard Branch	1
Lexington and West Cambridge	6¾
Lowell and Lawrence	12½
Medford Branch	3¾
Nashua and Lowell	14
New Bedford and Taunton	21½
Newburyport	14¼
Norfolk County	20
Old Colony	45½
Peterboro' and Shirley	23½
Pittsfield and North Adams	20
Providence and Worcester	44
Salem and Lowell	17½
Saugus Branch	8
South Reading Branch	8¼
South Shore	11
Stockbridge and Pittsfield	22
Stony Brook	13¼
Stoughton Branch	4
Taunton Branch	11¾
Vermont and Massachusetts	77
Western	117
West Stockbridge	2¾
Worcester and Nashua	45¾
Total	1091

RHODE ISLAND.

Providence and Stonington	50
Total	50

CONNECTICUT.

Collinsville Branch	11
Danbury and Norwalk	24
Hartford, Providence & Fishkill	50
Housatonic	74
Middletown Branch	10
Naugatuck	62
New Haven, Hartford & Springfield	62
New Haven and Northampton	45
New Haven and New London	50
New London, Willimantic & Palmer	66
New York and New Haven	63
Norwich and Worcester	66
Total	583

NEW YORK.

Albany and West Stockbridge	38¼
Albany Northern	32
Buffalo, Corning and New York	100
Buffalo and New York City	91
Buffalo and Niagara Falls	22
Buffalo and State Line	69
Canandaigua and Elmira	49
Canandaigua and Niagara Falls	97
Cayuga and Susquehanna	35
Chemung	17¼
Eighth Avenue [New York city]	4½
First and Second Avenue	3½
Hudson River	144
Hudson and Berkshire	31½
Long Island	98
New York and Erie	464½
New York and Harlem	130¾
New York Central	518
Corning and Blossburgh	15
Northern [Ogdensburg]	118
Oswego and Syracuse	36¾
Plattsburg and Montreal	23½
Rensselaer and Saratoga	32
Rochester and Lake Ontario	13
Saratoga and Schenectady	23
Saratoga and Washington	54¼
Sackett's Harbor and Ellisburg	18
Sixth Avenue [New York city]	3½
Skaneateles and Jordan	3
Third Avenue [New York city]	4½
Troy and Greenbush	6¾
Troy and Bennington	5¼
Troy and Boston	261
Troy and Rutland	32
Watertown and Rome	96
Total	2,355½

NEW JERSEY.

Belvidere Delaware	41
Burlington and Mount Holly	6
Camden and Amboy	65
Morris and Essex	45
New Brunswick and Trenton	28
New Jersey	31
New Jersey Central	64
Trenton Branch	6
Union	33
Woodbury Branch	9
Total	328

PENNSYLVANIA.

Alleghany Portage	36
Beaver Meadow	38
Blairsville Branch	3
Carbondale and Honesdale	24
Catawissa, Williamsport and Erie	25
Chestnut Hill and Doylestown	15
Chester Valley	21
Columbia Branch	18
Cumberland Valley	52
Dauphin and Susquehanna	16
Delaware, Lakawanna and West.	50
Erie and North East.	19
Franklin Canal	26
Franklin	22
Germantown Branch.	6
Harrisburg and Lancaster.	38
Hazleton and Lehigh	10
Lehigh and Susquehanna	20
Little Schuylkill	20
Little Schuylkill and Susquehanna	28
Lykens Valley	16
Mahonoy and Wisconisco	17
Mauch Chunk and Summit Hill.	8
Mill Creek	9
Mine Hill	12
Mount Carbon	7
Nesquehoning	5
Pennsylvania	256
Pennsylvania Coal Company's.	47
Philadelphia and Columbia	80
Philadelphia and Reading	93
Phila., Germantown & Norristown	17
Philadelphia and Trenton	29
Philadelphia and Westchester	9
Phila., Wilmington & Baltimore	98
Pine Grove	4
Room Run	6
Schuylkill.	13
Schuylkill Valley, incl. branches	25
Strasburg.	7
Sunbury and Erie	20
Tioga	26
Trevorton and Mahonoy	15
Whitehaven and Wilkesbarre	20
Williamsport and Elmira	25
York and Cumberland.	25
York and Whrightsville.	13
Total	1,375

VIRGINIA.

Appomattox	9
Chesterfield	12
Chesterfield and James River	4
Clover Hill	11½
Greenville and Roanoke.	21
Deep Run	4
Manassas Gap	38
Orange and Alexandria	62
Port Walthal Branch	3
Petersburg.	63
Richmond and Danville	84

Richmond, Fred. and Potomac	76½
Richmond and Petersburgh	22
Sea-board and Roanoke,	80
South Side,	62
Tuckahoe and James River Branch	5½
Virginia Central	107
Virginia and Tennessee	73
Warrenton Branch	9
Winchester and Potomac	32
Total	778½

OHIO.

Bellefontaine and Indiana	118
Central Ohio	59
Cincinnati, Hamilton and Dayton	60
Cleveland, Columbus& Cincinnati	135
Cincinnati, Hillsboro & Parkersb.	37
Cincinnati, Wilmington&Zanesville	41
Cleveland, Painesville and Ashta	71
Cleveland, Zanesville and Cincin.	14
Cleveland and Pittsburg	100
Cleveland and Toledo, S. Divis.	87
" " N. "	60
Columbus and Xenia	55
Columbus, Piqua and Indiana	46
Dayton and Michigan	20
Dayton and Western	36
Dayton and Springfield	24
Findlay Branch	16
Greenville and Miami	27
Hamilton, Eaton and Richmond	45
Carrolton Branch	20
Iron	13
Little Miami	84
Mad River and Lake Erie	134
Mansfield and Sandusky	56
Newark and Mansfield	61
Ohio and Pennsylvania	187
Ohio and Mississippi	20
Ohio and Indiana	32
Scioto and Hocking Valley	44
Springfield and Xenia	19
Total	1,713

NORTH CAROLINA.

Gaston and Raleigh	87
Greenville and Roanoke	21
Wilmington and Raleigh	162
Total	270

SOUTH CAROLINA.

Abbeville Branch	12
Anderson Branch	10
Camden Branch	37
Charlotte and South Carolina	109
Columbia Branch	67
Greenville and Columbia	143
King's Mountain	22
Laurens	15
South Carolina	137
Wilmington and Manchester	161*
Total	713

GEORGIA.

Athens Branch	40
Waynesboro	51
Central	191
Eatonton	20
Georgia	171
La Grange	81
Macon and Western	101
Milledgeville and Eatonton	35
Muscogee	50
Rome	20
South-Western	50
Warrenton Branch	4
Western and Atlantic	140
Waynesboro'	51
Total	944

ILLINOIS.

Aurora Branch	13
Aurora Extension	86
Chicago and Mississippi	131
Chicago and Rock Island	140
Galena and Chicago Union	120
Great Western Illinois	81
Illinois Central, sixth division	60
" " Chicago branch	56
St. Charles Branch	7
O'Fallon's Coal Road	8
Illinois and Wisconsin	25
Terre Haute and Alton	30
Peoria and Oquawka	20
Total	777

INDIANA.

Columbus and Shelbyville	21
Evansville and Crawfordsville	34
Indiana Central	72
Indianapolis and Bellefontaine	84
Indianapolis and Cincinnati	90
Jeffersonville	77
Lafayette and Indianapolis	64
Madison and Indianapolis	86
Martinsville	27
New Albany and Salem	253
Newcastle and Richmond	27
Northern Indiana	113
Peru and Indianapolis	50
Shelbyville and Knightstown	27
Shelbyville Lateral	16
Shelbyville and Rushville	20
Terre Haute and Richmond	73
Total	1,134

MARYLAND.

Annapolis and Elkridge	21
Baltimore and Ohio	379
Baltimore and Susquehanna	57
Frederick Branch	3
Hanover Branch	13
Washington Branch	31
Westminster Branch	17
Total	521

MISSOURI.

Pacific	38
Total	38

KENTUCKY.

Covington and Lexington	47

* Part of this road is in N. C.

Lexington and Frankfort	29
Louisville and Frankfort	65
Maysville and Lexington	25
Total	166
TENNESSEE.	
East Tennessee and Georgia	82
Memphis and Charleston	50
Nashville and Chattanooga	158
Total	290
ALABAMA.	
Alabama and Tennessee River	50
Memphis and Charleston	43
Mobile and Ohio	33
Montgomery and Westpoint	88
Total	214
MISSISSIPPI.	
Raymond Branch	7
St. Francis and Woodville	28
Vicksburg and Jackson	60
Total	94
LOUISIANA.	
Clinton and Port Hudson	24
Mexican Gulf	27
Milneburg	6
New Orleans and Carol.	6
West Feliciana	26
Total	89
WISCONSIN.	
Milwaukie and Mississippi	110
Rock River and Union Valley	20
Total	130
MICHIGAN.	
Michigan Central	268
Michigan Southern	204
Pontiac	25
Total	497
DELAWARE.	
Newcastle and Frenchtown	16
Wilmington Branch	11
Total	27

AGGREGATE STATEMENT.

States.	Miles open.	Area in Sqr. miles.	Population in 1850.
Maine,	335	30,000	483,188
New Hampshire	646	9,280	317,964
Vermont	504	9,056	314,120
Massachusetts	1,091	7,800	994,499
Rhode Island	50	1,306	147,544
Connecticut	583	4,674	370,791
New York	2,355	46,000	3,097,393
New Jersey	328	8,320	489,555
Pennsylvania	1,375	46,000	2,311,786
Delaware	27	2,120	91,535
Maryland	521	9,356	583,035
Virginia	779	61,352	1,421,661
North Carolina	270	45,000	868,903
South Carolina	713	24,500	668,507
Georgia	944	58,000	905,999
Florida	—	59,269	87,401
Alabama	214	50,722	771,671
Mississippi	95	47,156	606,555
Louisiana	89	46,431	517,739
Texas	—	237,321	212,592
Arkansas	—	52,198	209,639
Tennessee	290	45,600	1,002,625
Kentucky	166	37,680	982,405
Missouri	38	67,380	682,043
Ohio	1,713	39,964	1,980,408
Indiana	1,134	33,809	988,416
Illinois	777	55,405	851,470
Michigan	497	56,243	397,654
Wisconsin	130	53,924	305,191
Iowa	—	50,914	192,214
California	—	188,982	164,000
	15,663	1,485,361	23,108,504

RAILWAY SHARE LIST.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded Debt.	Total cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official year.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence	Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	80
Androscoggin and Kennebec	"	55	809,878	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland	"	72	952,621	297,800	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth	"	51	1,355,500	123,884	1,459,384	208,669	.....	6	97
York and Cumberland	"	20	285,747	341,100	713,605	23,946	11,265	none	24
Boston, Concord and Montreal	New H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	"	35	1,485,000	none.	1,485,000	305,805	141,836	8	103½
Cheshire	"	54	2,078,625	720,900	3,002,094	287,768	55,266	5	38
Northern	"	82	3,016,634	.....	.....	328,782	163,075	5	51½
Manchester and Lawrence	"	24	717,543	.....	.....	.....	.....	6	89
Nashua and Lowell	"	15	600,000	none.	651,214	132,545	51,513	8	106
Portsmouth and Concord	"	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan	"	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic	Vermont.	61	1,097,600	550,000	1,745,516	.....	.....	none	33
Rutland	"	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	20
Vermont Central	"	117	8,500,000	3,500,000	12,000,000	.....	.....	.....	13½
Vermont and Canada	"	47	1,500,000	.....	1,500,000	Leased to the Vt. Cent.			98
Western Vermont	"	51	392,000	700,000	.....	Recently opened.		none	.....

RAILWAY SHARE LIST.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded Debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	NetEarnings for last official year	Dividend for do.	Price of Shares.
Boston and Lowell	Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7	93
Boston and Maine	"	83	4,076,974	150,000	4,092,927	659,001	338,215	7	102
Boston and Providence	"	53	3,160,390	390,000	3,546,214	469,656	227,434	6	85
Boston & Worcester	"	69	4,500,000	425,000	4,845,967	758,819	331,296	7	100
Cape Cod Branch	"	28	421,295	171,800	633,906	60,743	30,056	2	40
Connecticut River	"	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	"	75	2,850,000	500,000	3,120,391	488,793	241,017	7	88
Fall River	"	42	1,050,000	none	1,050,000	229,445	99,589	8	100
Fitchburg	"	66	3,540,000	112,305	3,623,073	574,574	232,787	6	93½
New Bedford & Taunton	"	20	500,000	none	520,475	162,230	43,950	7	117
Norfolk County	"	26	547,015	819,743	1,245,927	67,251	23,415	none	60
Old Colony	"	45	1,964,070	282,300	2,293,534	322,213	101,510	none	91
Taunton Branch	"	12	250,000	none	307,136	137,406	24,399	8	.....
Vermont & Massachusetts	"	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	13¾
Worcester & Nashua	"	45	1,134,000	171,210	1,321,945	162,109	66,900	4	58
Western	"	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6	97
Stonington	R. I.	50	.....	467,700	.....	240,572	110,892	.....	66
Providence & Worcester	"	41	1,457,500	300,000	1,731,498	253,690	139,514	6	95

Canal	Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven	"	72	2,350,000	800,000	3,150,000	639,529	294,289	10	123
Housatonic	"	110	.....	.....	2,500,000	329,041	168,902	none	.....
New London, Wil. and Palmer.	"	66	558,861	800,000	1,511,111	114,410	.....	.....	39
New York and New Haven	"	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	101¼
Naugatuck	"	62	926,000	440,000	.....	.....	.....	8	.....
New London and New Haven	"	55	750,500	650,000	1,380,610	Recently opened.		none	52
Norwich and Worcester	"	54	2,121,110	701,600	2,596,488	267,561	116,965	4	58¼
Buffalo & New York City	N. Y.	91	900,000	1,550,000	2,550,500	Recently opened.		none	85
Buffalo and State Line	"	69	879,636	872,000	1,921,270	Recently opened.		.....	130
Canandaigua and Elmira	"	47	425,509	582,400	987,627	76,760	39,360	none	68
Erie, [New York and Erie]	"	464	10,000,000	24,003,865	33,070,863	3,537,766	1,691,623	7	79⅜
Hudson River	"	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	68
Harlem	"	130	4,725,250	977,463	6,102,935	681,445	324,494	5	56
Long Island	"	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30
New York Central	"	504	23,085,609	10,773,823	33,859,423	.....	.....	.....	114
Ogdensburgh [Northern]	"	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	30
Oswego and Syracuse	"	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal	"	23	174,042	131,000	349,775	Recently opened.		none	.....
Rensselaer and Saratoga	"	25	610,000	25,000	774,495	213,078	96,737	.....	.....
Rutland and Washington	"	60	850,000	400,000	1,250,000	Recently opened.		.....	.....
Saratoga and Washington	"	41	899,300	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	"	32	237,690	100,000	329,577	Recently opened.		.....	33
Troy and Boston	"	39	430,936	700,000	1,043,357	Recently opened.		none	.....
Watertown and Rome	"	96	1,011,940	650,000	1,693,711	225,152	116,706	8	92
Camden and Amboy	N. J.	65	1,500,000	.....	4,327,498	1,388,385	478,413	10	145

RAILWAY SHARE LIST.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded Debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net Earnings for last official year.	Dividend for do.	Price of Shares.
Morris and Essex	"	45	1,022,420	128,000	1,220,325	149,941	79,252	7	.....
New Jersey	"	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central	"	63	936,106	1,500,000	2,379,880	260,899	124,740	3	.....
Cumberland Valley	Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East	"	20	600,000	.....	750,000	Recently opened.		.....	125
Harrisburgh and Lancaster	"	36	830,100	713,227	1,702,523	265,327	106,320	8	52
Philadelphia and Reading	"	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	79
Phila., Wilmington & Baltim.	"	98	3,850,000	2,403,276	6,813,839	667,785	383,501	5	80
Pennsylvania Central	"	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	.....	94
Baltimore and Ohio	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	57¼
Washington Branch	"	38	1,650,000	.....	1,650,000	348,622	216,237	8	.....
Baltimore and Susquehanna	"	57	.....	.....	.....	413,673	152,536	.....	.....
Petersburgh	Va.	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville	"	73	1,372,324	200,000	In progress.	.....	....	.....	70
Richmond and Petersburgh	"	22	685,000	.....	1,100,000	122,861	74,113	none	40
Richmond, Fred. and Potomac.	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side	"	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central	"	107	1,400,100	446,036	In progress.	176,485	74,902	none	61

Virginia and Tennessee.....	"	60	3,000,000	1,500,000	In progress.	.....	.....	none	98
Winchester and Potomac.....	"	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.....	N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Greenville and Columbia.....	S. C.	140	1,004,231	300,000	In progress.	.....	.....	.....	.....
South Carolina.....	"	242	3,858,840	3,000,000	7,008,396	1,000,717	609,711	7	125
Georgia Central	Ga.	191	3,100,000	306,187	3,378,132	945,508	508,625	8	115
Georgia.....	"	211	4,000,000	1,214	.....	934,424	456,468	7½	.....
Macon and Western	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	100
South Western	"	50	586,887	150,000	743,525	129,395	71,535	8	.....
Memphis and Charleston.....	Ala.	93	776,259	400,000	In progress.	.....	.....	.....	.....
Mobile and Ohio.....	"	33	879,868	.....	In progress.	.....	.....	.....	.....
Montgomery and West Point ...	"	88	688,611	.....	1,330,960	173,542	76,079	8	.....
East Tennessee and Georgia ...	Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.....	"	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.....	Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	70
Frankfort and Lexington.....	"	29	357,218	.....	584,902	87,421	44,250	.....	80
Cleveland and Pittsburgh	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	93
Cleveland and Toledo.....	"	147	552,000	800,000	1,317,140	.....	.....	.....	92½
Cleveland and Columbus.....	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana..	"	46	.....	.....	2,000,000	.....	.....	.....	80
Cincinnati, Hamilton & Dayton	"	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	106
Dayton and Western.....	"	40	310,000	550,000	925,000	Recently	opened.	.....	80
Little Miami.....	"	84	2,370,784	.....	2,634,157	526,646	314,670	10	113
Mansfield and Sandusky.....	"	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.....	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	95
Ohio and Mississippi.....	"	.....	.....	.....	In prog.	.....	.....	.....	87

RAILWAY SHARE LIST.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded Debt.	Tot. cost of road and equipment.	Gross Earnings for last official year.	Net earnings for last official year.	Dividend for do.	Price of Shares,
Ohio and Pennsylvania	"	187	1,750,700	2,450,000	.....	Recently	opened.	.....	.....
Xenia and Columbus	"	54	1,092,137	119,500	1,257,714	Recently	135,363	15	116
Evansville and Illinois	Ind.	31	.....	.....	In progress	237,506	.....	.....	.....
Indiana Central	"	.....	.....	.....	"	.....	.....	.....	90
Indiana Northern	"	131	.....	.....	"	.....	opened	.....	115
Indianapolis and Bellefontaine	"	83	.....	.....	"	Recently	.....	.....	166
Lawrenceburg and Indiana	"	90	.....	.....	"	.....	.....	.....	77
Lafayette and Indianapolis	"	62	.....	.....	.....	.....	opened	.....	82
Madison and Indianapolis	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	70
Peru and Indianapolis	"	40	.....	.....	In progress.	.....	.....	.....	65
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Chicago and Mississippi	Ill.	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central	"	.....	.....	.....	.....	.....	.....	.....	136
Galena and Chicago	"	92	1,932,361	500,000	In progress.	473,548	286,152	.....	122
Michigan Southern	Mich.	315	2,800,000	2,629,000	6,430,246	592,187	293,046	.....	126
Michigan Central	"	282	4,000,000	4,067,396	8,614,193	.....	.....	8	101
Pacific [1st Division]	Mo.	38	1,048,580	1,240,000	1,595,861	In progress.		.....	.....

JOURNAL OF MANUFACTURES.

MANUFACTURES vs. LAND SPECULATIONS.

The common sense of a community is the standard of its public justice. It is the court of last resort, as well as of original jurisdiction in all matters pertaining to the general welfare. For in a republican country, public opinion exercises more power than even "the Law and the Prophets."

To this tribunal we make our application in behalf of the claims of manufactures, for wrongs and injuries done them by Land Speculations.

If the public mind were fully enlightened, and aroused to a feeling of equity and good conscience on this subject, Land Speculations would be checked, and Manufactures promoted.

How can the public mind become enlightened, and aroused to a just appreciation of the rights of manufactures, and the wrongs of land speculations?

By indisputable facts and irresistable arguments. Let them be heard.

The wealth of a nation is based on agriculture and manufacture. Corn, cotton and iron are the chief products. They command money in their raw state; but their value is enhanced a thousand-fold in the refined condition of bread, clothing and iron utensils. Corn, cotton and iron are superabundant in the Mississippi Valley; but of the home manufactured productions of these elements of wealth, bread is the only one made to meet the home demand. Clothing and iron utensils are supplied mainly by foreign hands. Cotton is sent from Arkansas to Europe, and then and there manufactured into clothing, is resent to Arkansas. Iron is sent from Missouri to England, and then and there manufactured into cutlery, is resent to Missouri. Cotton, manufactured into clothing, and iron, manufactured into cutlery, is raised in value from as many cents to as many dollars per pound. Arkansas produces the best cotton, and Missouri the best iron in the world. The manufacture of the raw material into useful articles, on the spot of production, would pay immense sums of money into the hands of our mechanics. The freight, commission and duty, charged on the imported articles, would be a surplus profit to the producers and consumers, on the spot of production, provided the cost of manufacturing was equal east and west. The duty on imported articles, although at first an advantage to the manufacturer, is finally a more important advantage to the owners of producing lands; and a still more important and general advantage to the consumers of manufactured articles; for, although the profits raised by duty incite capitalists to invest their funds in manufacturing establishments, yet it at the same time incites competition, subdues monopolies, concentrates and irradiates trade at com-

manding points in the country, produces a vast superabundance of substantial and highly finished home made articles, turns the balance of supply and demand in favor of home; and instead of enslaving the people of the country as borrowers, tax payers, and beggars of Europe and the Atlantic coast, it frees them from the bondage of their bonds, draws the money of foreign lands directly in their own hands, and makes other portions of the world tributary to their own prosperity.

The state here pictured, should now be realized. Why is it not?

Why are our railroads languishing and almost begging for support?

Why are our people borrowers of, and tax-payers to, European sovereigns—aye, dependant on them for railroad iron, and even for personal clothing?

Why are our merchants paying tribute to the merchants of the East?

Why, on the contrary, are not the merchants of the East paying tribute to the merchants of the West?

Why do the merchants of the West continue bond merchants?

Why do not the merchants of the West become merchant princes?

Among many reasons, Land Speculation is the main.

Infatuated with a passion to dissipate their means, by investing them in wild and unproductive lands, they bury their talent in the ground. Capitalists, mechanics, and even the farmers themselves, catch the contagion of the speculating fever. They stop discounting, building, farming; check produce, improvements and finances, waste their time and money, and even encumber productive property, to indulge in fancied and unrealized prices of real estate.

This course is ruinous, and worthy only of prodigal sons, yielding but "husks which the swine do eat."

If the millions of dollars which have been squandered in land warrants, land certificates and land speculations in Missouri within the last year, had been judiciously invested in manufacturing establishments; these millions of dollars would have circulated freely in the legitimate business of the community. The farmers, mechanics, merchants and railroad companies, would have enjoyed easier and more independent circumstances; and the fortunes of the people, instead of descending towards a crisis, like that of '41, would have transcended the prosperity of '52.

These millions of dollars, would soon bring millions of dollars more to purchase the products of the manufacturing establishments, in which the original millions were invested, after the expenses were met by the supply of our home demand; and this dividend of 100 per cent. would be apportioned out through the community. The farmers would obtain their shares, by the extraordinary demand for food, the mechanics, by the extraordinary demand for labor, and the merchants and bankers, by the extraordinary demand for exchange.

Soon again millions of dollars more would come, and flow into the hands of our farmers, mechanics, merchants and bankers.

Tide after tide of prosperity would set in, till Missouri might command the active and productive internal wealth of France or of Great Britain.

In view of these facts, will the people of Missouri remain dependant on Europe, mere borrowers, tax-payers and beggars of the merchant princes of the East, when they might devise and establish a public policy of manufactures, which would not only free them from the bondage of eastern financial tyranny, but also even make those princes tribute payers to the prosperity of Missouri?

May not a strong moral force be raised to subdue and extirpate the fatal epidemic of land speculation—a pestilence worse than the cholera?

May not millions yet and soon be raised for the cause — the glorious cause of manufactures—the corner stone of civilization—the basis on which civil and religious liberty, may rear their temples of justice and of devotion?

May not a strong — an irresistable feeling of patriotism be aroused to relieve the manufactures of Missouri from every — the least—burden of taxation?

Will not every son of this central State of the Union strive to make it outshine its sister stars, in the brilliancy of its internal wealth?

Cannot the *Geological Survey* be stimulated? Cannot a *Statistical Bureau* be established? Cannot a *School of Mines* be founded? And cannot all these engines of prosperity be made to accelerate the movements of the trains of manufactures? And will they not invest the State of Missouri with the glory of scientific light, and of political fame as well as of financial prosperity?

"'Tis a consummation devoutly to be wished."

'Tis a consummation that surely may be won.

Extensive means must be accumulated, a wise and liberal policy pursued, and the end is at hand.

The Railroad Companies of Missouri alone, with a portion of their $8,250,000 of State Bonds, and a few legislative privileges, could make all the iron they want, being 100 tons per mile, for their 1,200 miles of Railroads, amounting to 120,000 tons of iron, at $4,500,000, as estimated on the Renton Process; while at the present price of iron—say $75 per ton—the same amount of iron would cost $9,000,000.

And after supplying themselves, they might sell their manufacturing establishments at an additional profit.

Cotton goods, iron wares and other kinds of merchandize could be manufactured by individual enterprise, private partnership and corporate bodies to supply the demand, for their respective goods, wares and merchandize, not only of Missouri, but also of the whole country from the Falls of St. Anthony to the Gulf of Mexico.

The means and spirit to command success in this sphere of independence will be represented more fully in future articles.

But as a movement has lately been made in Ohio, to advance the prosperity of iron manufactures, we here quote the notice of it published originally in the *Cleveland* (Ohio) *Herald*, and quoted by the *Mining* (New York) *Magazine*, from which we quote:

LAKE SUPERIOR WROUGHT IRON MANUFACTURE UNDER RENTON'S PROCESS.

Renton's new process for making wrought iron direct from the ore, we are pleased to learn is continuing to work with increased success. A quantity of the Lake Superior ore was sent by the Cleveland Iron Company to Cincinnati, to be manufactured into iron by the new process in a furnace built by W. C. Davis & Co., under the superintendence of the Patentee.

On Thursday the trial was made, and in six hours produced 1,249 lbs. of blooms from 2,436 lbs. of ore; a portion of the iron was rolled into bars, producing an article remarkable for toughness. A piece of 1 1-4 inch round bar was bent over cold under a 6,500 lb. hammer, and so flattened down that the two inside edges came completely together all the way, without showing the least crack or break on the end. This is one of the severest tests, and none but very good iron can stand it. A portion also rolled very well into wire rods.

We have the best authority for saying that on Saturday Mr. Renton's furnace made in nine hours and twenty minutes 2,470 lbs. of blooms out of 5,860 lbs. of ore, chiefly of the Ohio and Virginia limestone ores, 1,566 lbs. of which, however, was the Lake Superior ore, mixed with a portion of the Ohio and Virginia, which yielded well and worked very fast, turning out about 400 lbs. per hour, and which made very tough iron. This process economizes fuel, as by measurement it only takes one and a half tons of mineral coal to make a ton of bloom. The Ohio ores by this mode will yield about 40 per cent., and the Lake Superior ore from 50 to 60 per cent. These statistics show this new process to be a very important improvement in the manufacture of wrought iron, a vast saving being made in substituting mineral coal or wood for charcoal, which must bring into requisition vast quantities of lands that lay useless with the wood swept off for charcoal, although abounding in bituminous coal, which could not be used for working the hematite ores. The main features of this improvement consist in reducing the cost of a ton of iron, improving its quality, saving the cost of the pig metal process, and consequently a large amount of capital requisite to work the blast furnace, this mode requiring comparatively but a small outlay.

The cost of manufacturing one ton of iron from Lake Superior ore, at this point, we give as follows:—

Labor of three men	$6 00
Two tons coal, $2 50	5 00

Hammering into Blooms	1 00
Burning and stamping ore	1 00
Filling tubes	25
Cost of power	1 50
Making into muck bar	75
Including all contingencies—merchantable bar	6 00
	$21 50
When the Canal at Sault Ste. Marie is completed, and Railroad from the Mines to the Lake, two tons of ore, which will make more than a ton of iron, will cost $6 per ton	12 00
Total	$33 50
Present value of Iron per ton	80 00
Net profit	$46 50
Additional, for present cost in transportation of the ore	12 00
Net profit	$34 50
Cost of the ore made into Blooms when canal is finished	26,75
Present cost added	12,00
For one ton Iron Blooms made at this point	$38,75

These figures may be applied as a basis of calculation for investments in the iron manufacturing business at St. Louis, with a liberal margin for increased profits, for although coal is not now so cheap at St. Louis as at Cleveland, yet the position occupied by St. Louis to command the iron trade of the United States is far superior to that of Cleveland with her Lake Superior ore, as St. Louis is within 80 miles of the Iron Mountain of Missouri, while Cleveland is over 500 miles from the Iron Mountain of Michigan.

The cost of ore, to make a ton of iron, is now at Cleveland	$24.00
The cost at St. Louis	12.00
Surplus profit at St. Louis	$12.00 p. ton.

But it is said that the ore will in time be brought to Cleveland at greatly reduced rates. Grant it, and the St. Louis and Iron Mountain R. R. will work a similar result for St. Louis.

And finally not only Missouri but Illinois also will easily supply St. Louis with the desired coal in abundance.

MISSOURI IRON.

The following is a statement of shipments of iron made at Ste. Genevieve, as furnished us by Mr. John Ziegler, the agent of the Iron Mountain and Pilot Knob Companies, from the 1st of June last, up to the present month. We regret that no statistic has been kept of other shipments made at this place, as we are unable to give a full and complete statement of the lead, white sand, lime and the agricultural productions of this and the surrounding counties.

It is well known and established fact, and generally acknowledged by business and steamboat men, that Ste. Genevieve is the largest and most extensive shipping point on the river between St. Louis and Memphis. We are fully prepared to substantiate and prove beyond all shadow of doubt the correctness of this statement.

PIG METAL.

Up Ohio river	2,119 tuns.
To St. Louis	1,317 "
Total,	3,436

BLOOMS.

Up Ohio river	11,097 pieces	1,313,857 lbs.
To St. Louis	4,089 "	691,923 lbs.
Total	15,185	2,005,780 lbs.

There is at the landing over 3,000 tuns pig metal, and 400 tuns blooms, which is all sold and will be shipped as soon as freights are reasonable.—[*Plaindealer*, 24. *Dec.*, '53.]

CAPITAL INVESTED IN MANUFACTURES IN THE U. S.

The entire capital invested in the various manufactures in the United States, on the 1st of June, 1850, not to include any establishments producing less than the annual value of $500—

Amounted in round numbers, to	$530,000,000
Value of raw material	550,000,000
Amount paid for labor	240,000,000
Value of manufactured articles	1,020,000,000
Number of persons employed	1,050,000

LITERARY DEPARTMENT.

RENÉ.

FROM THE FRENCH OF CHATEAUBRIAND.

(*In Continuation.*)

BY THE JUNIOR EDITOR.

'Venerable and smiling Italy offered me innumerable masterworks of art. With what holy and poetic awe I wandered through those vast buildings by the fine arts consecrated to religion! What a labyrinth of columns! What a succession of arches and of vaults! How sweet are those sounds one hears among the domes, like the roar of the waves on the ocean, the murmur of the winds in the forest, or the voice of God in his temple! The architect embodied, as it were, the ideas of the poet, and made them touching to the senses.'

'In the meantime what have I learned even with so much trouble? Nothing certain among the ancients, nothing beautiful among the moderns. The past and the present are two imperfect statues: the one has been all marred by the wreck of ages; the other has not yet received its perfection of the future.'

'But indeed, my old friends, you above all, dwellers in the desert, are you not surprised that, in this recital of my travels, I have not once entertained you with the monuments of nature?

'One day I was standing on the summit of Etna, a volcano which burns in the center of an island. I saw the sun rise from the vast expanse of the horizon below me, Sicily contracted as a point at my feet, and the sea unrolled far off in the distant space. In that lofty view of the scene around me, the rivers seemed to me only like geographical lines traced on a map; but, while on the one side my eye perceived these objects, on the other it plunged in the crater of Aetna, where, in the interim of the ebullition of black vapor, I discovered its heart on fire.'

'A young man full of passions, seated on the mouth of a volcano, weeping over mortals whose dwellings beneath his feet he could scarcely see, is it not doubtless, O venerable men, an object worthy only of your pity; but, whatever you may think of René, this scene presents to you the picture of his character and his existence; it is thus that all my life I have had before my eyes at the same time a world vast and inscrutable and an abyss yawning at my side.'

Pronouncing these last words, René was silent, and fell suddenly in a revery. Father Souel looked at him with astonishment; and the old blind Sachem, who heard the young man speak no more, knew not what to think of this silence.

René had fixed his eyes on a band of Indians who were crossing the prairie at leisure. Suddenly his countenance was changed, tears flowed from his eyes; he exclaimed:

'Happy Savages! Oh! that I could enjoy the peace which you always possess! While with so little satisfaction I ran through so many lands, you, seated quietly under your oaks, you let the days unnumbered flow along. Your thought was only for your wants, and you arrived, better than I, at the result of wisdom, like a child between sports and sleep. If that melancholy which produces excess of happiness sometimes reaches your soul, you soon spring from that transient sadness, and your glance raised toward heaven seeks with solicitude a mysterious charm, which soothes the poor savage.'

Here the voice of René again ceased, and the head of the young man fell upon his breast. Chactas, stretching out his arm in the darkness, and taking the arm of his son, said to him with a troubled voice: 'My son! My dear son!' At these tones the brother of Amelie coming to himself again, and blushing at his agitation, begged his father to pardon him.

Then the old Indian said: 'My young friend, the movements of a heart like thine, know not how to be uniform; only subdue that nature which has already made you so unhappy. If you, more than any other, suffer the ills of life, it need not surprise you: a large soul should contain more sorrow than a small one. Continue thy recital. Thou hast led us through one portion of Europe. Make us acquainted with thy home. Thou knowest that I have seen France, and what ties have bound me there; I would love to hear you speak of that great chief,* who is no more, and whose glorious cabin I have visited. My child, I see no more, except by memory. An old man with his memories is like a dying oak in our woods: the oak is no longer adorned with its own foliage, but its naked form is sometimes covered with strange plants which grow on its aged branches.'

The brother of Amelie calmed by these words, resumed thus the history of his heart:

* Louis XIV.

'Alas! my father, I am unable to entertain you with that great era of which I saw only the end in my infancy, and which was no more when I returned to my native land. But a change more astonishing and more sudden has not occurred with any nation. From the pride of genius, respect for religion, dignity of manners, there was a universal and rapid fall to meanness of spirit, to impiety, to corruption. It was wholly in vain that I had hoped to find at home some gentle spell to calm that restlessness, that ardor of desire which followed me everywhere. From the study of the world I had learned nothing, and moreover I had lost the bliss of ignorance.'

'My sister, by a mysterious conduct, seemed to take pleasure in augmenting my ennui. She left Paris a few days before my arrival. I wrote to her that I intended to go and rejoin her; she quickly answered dissuading me from this project, under the pretext that she was uncertain about where her affairs would call her. What sad reflexions did I not then make on friendship, which presence cools, which absence effaces, which does not resist misfortune, and is even lost in prosperity!'

'I was soon more lonely at home than I ever had been in a foreign land. For some time I wished to mingle in a world which said nothing to me, and which did not understand me. My soul, which no passion had yet impaired, sought for an object to which it could become attached; but I found that I gave more than I received. Neither an elevated language nor a profound sentiment did they desire me to bestow. I was busy only in shrinking up my life, to place it on a level with society. Characterized throughout with a romantic spirit, ashamed of the part I was playing, disgusted more and more with things and with men, I resolved to retire in a faubourg, to live there wholly unknown.'

'At first I found pleasure enough in that obscure and independent life. Unknown, I mingled with the crowd, the vast desert of men!'

'Often seated in a church, frequented by a few, I spent hours and hours in meditation. I saw poor women come and bend in adoration before the Most High, or sinners kneel at the altar of penitence. Not one goes away from those places without a countenance more serene; and the deafening clamors which one hears in the streets seem to be the waves of passions and the storms of the world which beat and die at the foot of the Temple of the

Lord. Great God, who saw secretly my tears flowing in those sacred retreats, thou knowest how many a time I cast myself at thy feet praying that thou wouldst free me from the load of life, or change the Adam within me! Ah! who has not felt sometimes the need of regeneration, of renewing himself by the waters of the torrent, of refreshing his soul at the fountain of life? Who has not sometimes been overwhelmed by the weight of his own unworthiness, and incapable of doing anything grand, noble, just?

'When the evening was come, regaining the path from my retreat, I stopped on the bridge to see the sunset. The star, illuminating the smoke of the city, seemed to oscillate gently in a fluid of gold, as the pendulum of the clock of ages. I then retired with the night, through a labyrinth of solitary streets. Observing the lights which shone in the abodes of men, I wafted myself away on the wing of thought amid the scenes of grief and of joy which they brightened, and I felt that, under all the roofs of those inhabitants, I had not one friend. In the midst of my reflexions, the bell began, with solemn sound, to toll the time in the tower of the gothic cathedral; it was repeated with blended tones, and to remote distances, from church to church. Alas! each hour in society opens a grave, and makes the tears flow.'

'This life, which at first had enchanted me, soon changed into a source of my misery. I grew weary of the repetition of the same scenes and of the same ideas. I began to search my heart, and to ask of myself what I desired. I knew not what; but on a sudden I thought that some charm might be found in the woods. At once I resolved to end in a wild exile a career scarcely begun, and in which I had already wasted many years.'

'I embraced this project with the ardor which I infused in all my designs; I left hurriedly to seclude myself in a thatched cottage, as I had gone heretofore to make a tour of the world.'

'Some accuse me of having inconstant tastes, of being unable to enjoy the same fancy for a long time, of being the prey of an imagination which siezes hold of the foundation of my pleasures, as if it was tired of their endurance; others accuse me of always passing by the goal which I reach: alas! I seek only an unknown good, of which the intuition impels me. Is it my fault if I find limits everywhere, and no longer any interest in what is once done? However I feel that I love the monotony of the sentiments of life;

and if I have yet the madness to believe in happiness, I will seek for it in accordance with my custom.'

'Absolute solitude, the appearance of nature, plunged me soon into a condition which almost baffles description. Without parents, without friends, one might say all alone on the earth, having never yet loved, I was overwhelmed with a superabundance of life, sometimes I would blush suddenly, and I would feel something flowing in my heart like streams of burning lava; sometimes I burst forth with unvoluntary screams, and the night was troubled equally with my dreamings and my watchings. Something was wanting to fill up the abyss of my existence: I descended into the valley, I ascended the mountain, appealing with all the power of my emotions to the ideal object of a future flame; I embraced it in the winds, I thought I could hear it in the moaning of the waves; this imaginary phantom was everything, yes, the stars in the skies, and even the principle of life in the universe.'

'Yet this condition of repose and of trouble, of poverty and of opulence, was not without some charms: one day I was amusing myself by stripping off the leaves from the branch of a willow by the brook side, and attaching an idea to each leaf which the current drew away. A king who fears he may loose his crown by a sudden revolution, does not feel anxieties more lively than were mine at each circumstance which threatened the destruction of my branch. O weakness of mortals! O infancy of the human heart, which never grows old! Behold! to what depth of puerility our proud reason can descend! And yet is it true that very many men bind their destiny to things of as little importance as my leaves of the willow.'

'But the croud of fleeting sensations which I experienced in my walks cannot be expressed. The tones which passions produce in the void of a lonely heart are like the murmurs which the winds and the waves arouse in the silence of the desert: one may enjoy, but he cannot describe them.'

'Autumn surprised me amid these uncertainties: I entered with rapture upon the mouth of the tempests. Sometimes I wished to be one of those warriors wandering through the storms, the clouds and the phantoms; sometimes I envied the lot of the herdsman whom I saw warming his hands at the little bramble fire which he had kindled in a corner of the woods. I heard his melancholy songs, which reminded me that in all lands the natural song of

man is sad, even when it expresses happiness. Our heart is an unfinished instrument, a lyre whose cords are untuned, and with which we are compelled to utter the accents of joy by tones consecrated to sorrow.'

'During the day I wandered over the broad meadows bounded by the forests. The slightest thing excited my revery! a dry leaf which the wind chased before me, a hut whose smoke arose over the hill stript of trees, the moss which trembled at the breath of the north-wind on the trunk of an oak, a broken rock, a lonely pond where the faded rush was mourning! The solitary steeple raising itself at a distance in the valley, has often drawn my attention; often have I followed the eyes of the birds of passage which flew above my head. I fancied the unknown shores, the foreign climes where they resort; I wished I could fly with them. A secret instinct tormented me, I felt that I myself was a voyageur; but a voice from heaven seemed to say to me: 'Man, the season of thy migration has not yet come; wait till the wind of death raises thee: then thou shalt display thy wings, and wend thy way to the unknown realms which thy heart longs to inhabit.'

'Arise soon, ye rapturous storms, and transport René into the spheres of another life!' Speaking thus, I walked with rapid steps, face glowing, the wind sighing through my locks, feeling neither rain nor frost, enchanted, tormented and seemingly possessed by the demon of my heart.'

'At night, while the north-wind was shaking my cottage, when the rain fell in torrents on my roof, when through my window I saw the moon ploughing through the huge broken clouds, like a white sailing vessel laboring amid the waves, I felt life redoubling from the bottom of my heart. I felt within me the power of the creation of worlds. Oh! that I could impart to another the extasies I experienced! O God! hadst thou but given me a wife after my own heart; if, as to our first father, thou hadst brought to me by the hand an Eve fashioned from myself * * * * * Heavenly Beauty, I would have knelt in adoration before thee; then, clasping thee in my arms, I would have prayed the Eternal to consecrate to thee the remainder of my life.'

[Continuation forthcoming.]

Some Thoughts on Self Intellectual Culture.

BY A MEMBER OF THE KEOKUK (IOWA) BAR.

Continued from page 224.

The exercise of intellect, and the improvement of language, are the *two means* by which we must lift ourselves and our race up to greatness and power and independence: how clear and vast and pervading are these; how infinite their powers; how stupendous their results! Just so it is with all human knowledge when reduced to its original elements; when analyzed and logically classed: simple, beautiful, easy of acquisition. All knowledge is science in the abstract. Science is the accumulated knowledge of *many* reduced and arranged, so as to be comprehensible to one. Art is nothing but the practice of science. Science has reference to mind: to matter and to morals; hence its primary division into abstract science and natural and moral science; the first, embracing metaphysics, letters and language; the second, physsics, chemistry, physiology, and to which may be added mathematics, or the science of quantity; and the third, covering an examination of our complex duties to our God, our country, our fellow-men and ourselves in all the relations and responsibilities, in which it is possible for us to be placed. These primary divisions may be subdivided so as to embrace every department of human knowledge of whatever character or description.

Again: all knowledge is composed of simple ideas, and the understanding of their agreements and their disagreements with each other; and every new idea we acquire, and make our own, is a new and unquestionable advance in education. This may appear to be a rather homely and familiar way of viewing the arts and sciences and literature; but rest assured, it is the only intelligent and practically eorrect way. There is a disposition too prevalent, to throw around philosophy, in its enlarged sense, a veil of mystery and an aspect of austerity not belonging to it. It is contemplated by many as forbidding in its appearance and complex in its structure, and as legitimately belonging to a favored few, and beyond the reach of the great masses. It is supposed that opulence and illustrious birth and brilliant genius and the smiles of fortune, are indispensable in some way to become distinguished as scholars aed statesmen and jurists and divines. The history and circumstances of celebrated individuals are imagined to be different from those of others, as though some undefinable charm and uninterrupted prosperity and superior spirit presided over their destinies.

Think ye, all those eminent men of this and other times, whose philosophy has enlightened, and whose eloquence has electrified, have never experienced the vicissitudes and trials and sorrows of life? Think ye, their course from childhood to the grave, has been marked by cloudless sky and balmy breeze? Have storm and tempest and rock and billow, never shattered their tiny barks, or endangered their eventful lives, or shipwrecked some of their dearest hopes? Had we leisure to draw aside the curtain, and look a little into the private history of a few distinguished individuals, who have flourished in

various countries, and at different periods of time; and whose genius and scholarship have contributed so essentially to the improvement and happiness of our race; and see if theirs was a life of affluence and sunshine, or of trial and vicissitude, if I am not exceedingly mistaken, we would find that very many of the most beloved and honored and gifted of men, have suffered with an intensity almost inconceivable; have struggled with difficulties, which would appeal and overwhelm the mass of mankind, and have emerged from an obscurity and a poverty, that had they been ours, would have crushed forever our wavering resolutions and half developed energies. We would learn further, that dazzling genius and fertile imagination have less to do with eminence and solid acquirement, than an iron resolution and indomitable perseverance. *These* belong to all; are within the reach of all, and are indispensable to, and inseparable companions of all intellectual greatness. The corruscations of genius may startle by their brilliancy, and the creations of fancy compel our admiration, yet their existence is brief and evanescent unless they are supplied at the living fountains of knowledge by the untiring hand of industry.

A narration of the early difficulties and struggles of eminent men in the pursuits of learning, and in their career to honor and renown, would furnish a truly rich and valuable lesson. The field of observation is an extensive one, replete with interesting examples, and furnishing powerful motives of encouragement to all. If our youth would bestow a few moments of serious thought, upon their own social position, their multiplied means of improvement, the numerous advantages they possess, and the respectable talents with which they are endowed, I think, they would avail themselves of every occasion and opportunity to devote themselves in the scale of intelligence. If our young men would diligently and earnestly cultivate all their mental powers, they would become respected, enlightened, and honored. If they would avoid scenes of dissipation, trifling conversation, and the formation of vicious habits; and by a judicious distribution of their time, and an unbroken determination, pursue a fixed and systematic course of instruction, they must and would ultimately rise to usefulness, eminence and great learning.

Every man, I care not what may be your situation, your age, your poverty, your associations, if you are true to your own powers, true to your country, true to your best interest, true to the cause of humanity, true to your own highest happiness, true to the genuine impulses and immortal responses of your own soul; you can rise above the mists of ignorance and prejudice to the bright, upper sky of philosophy and public usefulness. Though the morning of your life be dark and gloomy, full of crushing dispair and perilous trial, yet its noon will become clear and beautiful, and the evening of your days will be bathed in the gorgeous splendors of an unbounded sun whose rays will illume your path with honor and glory.

The poet has beautifully alluded to the stern energy required for success and distinction in life.

> "Thus at the flaming forge of life,
> Our fortunes must be wrought,
> Thus, on its sounding anvil shaped,
> Each burning deed and thought."

The examples furnsshed in the lives of distinguished persons will also prove highly interesting to the pale and thoughtful student, whose brow is lined with the deep traces of mental toil; whose days present one unbroken scene of conflict, and whose nights are consumed in silent secret, yet eloquent converse with the illustrious dead; they will cheer him on, and buoy him up in his trying journey, stimulate his jaded energies to renewed exertion, and present to him in distant prospect the noble rewards that will crown his efforts. Young man, "Look not mournfully into the past, it comes not again. Wisely improve the present, it is thine. Go forth to meet the shadowy future, without fear and with a manly heart." And

"Men of thought be up and stirring,
Night and day;
Sow the seed—withdraw the curtain,
Clear the way:
Men of action—aid and cheer them,
As ye may."

In the pursuit of learning, it will be well to inquire, what studies hold a superior claim upon our attention. The departments of knowledge are so numerous, and their details so nice and diversified, that it is impossible for any one mind to master all; and indeed among the large mass of the people a few only can be properly explored and comprehended.

On this branch of my subject I can only refer to a few subjects of study which appear to me to be invested with a more prominent and practical importance than others.

A first leading principle would seem to be to pay particular attention to that branch of knowledge most intimately connected with our condition and pursuits in life. That which relates to our business or profession is invested with a pervading and practical importance. It not only affects deeply our respectability in life, but involves largely our competent discharge of duty. By adopting a business or profession, we hold ourselves out to the world as qualified in every respect for its faithful and intelligent discharge, and upon which presumption and reasonable expectation of ability and skill, extensive and delicate interests are intrusted to our care: interests, perhaps, which involve the fortunes, the reputation, the lives and the happiness of others. To possess imperfect attainments *here*, or to be negligent in the study and mastering of the art and science of our calling, evidences a wanton disregard of our own highest interests and of the most serious duties of life. To be respectable in our profession, deserves no particular praise; for it involves a simple, plain, practical discharge of duty; to be unqualified in our profession and interpose no efforts to redeem ourselves from our position, manifests gross neglect, and is deserving the most severe and unqualified animadversion. We ought then, by all means, and at every sacrifice, to master our business, understand its philosophy, study its history, and become familiar with its art and mystery. This is indispensable to our respectability, prosperity and happiness. Self-respect and all laudable ambition will be destroyed, unless we lay the foundations of our success in life, broad and deep, in a thorough appreciation of its principles and practice I would therefore urge most earnestly upon every young man, whatever may be his calling in life, whether mechanical or commercial,

professional or agricultural, to learn well and study deeply that calling, investigate its reasons and elements, and master all its departments and difficulties. He will thus experience a pride and consciousness of ability and mental wealth, that will inspire him with confidence and enable him to command the sincere respect and esteem of others.

Another very essential branch of education is the study of the history of our country and its civil and political institutions. In a Republic like ours, where every citizen possesses political rights and influence, which may be exercised for the honor or disgrace of his country, the necessity of political information and a thorough comprehension of the organization and purpose and end of government, cannot be too profoundly or earnestly impressed. No education can be valuable or complete without this.

The history of our republic extends over a very brief period of time, but it is rich in heroic achievement, replete with sound political philosophy, and enters deeply into the whole structure of government and the rights of man. In the annals of no nation, have the nature and obligation of the social compact been so searchingly discussed, and the true institution and design of civil society so fearlessly canvassed and accurately defined, as in our own. The bold and manly doctrines avowed by the colonies in their remonstrances to the tyrannical aggressions of Great Britain, the learned and elaborate expositions of government by the revolutionary fathers on the adoption of the articles of confedeation, and the most comprehensive, accurate and exhausting investigations, which the nature and structure, the institution and purpose of all human government underwent on the framing and acceptance of the federal constitution, furnish lessons full of instruction and wisdom, and are invaluable to the patriot and statesman. No individual can be supposed capable of legislating intelligently for his country, or of participating in the administration of its laws with a profound conviction of his responsibility, unless he has drank deeply of these fountains of knowledge, and imbued his mind with their wisdom and generous spirit. The history of our revolution is replete with illustrations of heroism and devotion to country, not surpassed in that of any other nation. Whatever adorns the human character, whatever sustains human fortitude, whatever consecrates lofty patriotism, whatever emblazens military renown, or whatever evidences sterling virtue and a self-sacrificing, self-sustaining spirit amidst cloud and darkness, is manifested in the history of our struggles and our triumphs in the cause of civil and religious liberty.

The story of Grecian valor, and of Roman virtue, is celebrated in verse and in song, the chivalrous deeds of England's heroes and Scotia's kings adorn the pages of their history, and live in the traditions of their people; and the iron discipline and enduring fortitude of Russia's soldiery, have become themes of wonder and admiration. But *their struggles* were the mere struggles of men for power and of kings for prerogative. Their revolutions were simply to elevate one class of tyrants upon the ruins of another; and their hard fought battles and blood stained fields brought nought of civil freedom and redeemed condition to a suffering people. The soldier poured out his blood and received his pittance and remained a slave; the general with

laurels crowned, bent his knee in servile homage before his lord and emperor. But the American revolution gave birth to an enlightened and regulated liberty. It was the offspring of redeemed mind, animated by a sense of its oppression, and conscious of its rights, its powers, and its duties. And the history and result of that revolution illustrate the determined purpose, the unquestionable zeal and the triumphant power of the people. And when the story of Greece and Rome shall be forgotten, the achievements of England and of Scotia remain unsung, and the crushing despotism of the haughty Muscovite be only remembered in the legends of tradition; the illustrious and beloved name of Washington, and the gallant deeds of the other heroes, of the revolution will be lisped by every tongue, and heard in every clime. And the battle-fields of our own country, and of wild, romantic Switzerland, and of poor, degraded Poland, and of heroic, generous, betrayed Hungary, now prostrate beneath the weight of the imperial empire; when the blood of the martyrs in the cause of liberty was shed, and their last expiring groans were heard, will become sacred spots dear to the heart and hallowed in the memory of every free man.

Let us then study most thoroughly, and love most devotedly our country. Let a knowledge of her institutions rank equal with her household gods. Let us teach our children to repeat the tale of her birth and the vicissitudes of her sufferings, and let their young and pliant minds be impressed with a sense of the value of their civil and social privileges. And that country so dear to us, securing so many blessings, preserving so many precious rights, and cherishing so many anxious hopes, may her union be eternal; not a star striken out, not a stripe torn; her flag unfurled to the winds of heaven, and floating in peace and in triumph—now and forever, over a free, a united and a prosperous people.

In this connection, I would urge the propriety of the study of civil liberty as illustrated in the history of the past. It will warm our love of country, and teach us the value and use of freedom. It will enlighten and liberalize our minds, and enlist our sympathies and our hopes in behalf of suffering humanity.

I would also most earnestly commend to the most attentive consideretion of the enlightened youth the study of the moral sciences. They instruct us in the nature and value of our domestic and social relations, and the rights and duties springing therefrom. We ought to remember that in the exercise of our rights, and in the performance of our duties, we will frequently come in conflict with others, who also have rights to be exercised and duties to be performed. And it becomes a matter of serious reflection and of conscience with us to respect those rights, and not do violence to those duties. We ought likewise to respect the opinions and feelings of those with whom we may have intercourse, however they may conflict with our own, for we all know the infirmities of our nature, the fallibility of our judgments, and the mutual dependence that exists among us. If we are fixed in our opinions, and indignantly reject injury to our feelings, so are others equally fixed in their opinions, and sensitive in their feelings. And God has transferred to no man the right to pass judgment upon me, or to pronounce an idle sentence of condemnation upon any

particular views which I may sincerily cherish. These are matters between man and his Maker.

The want of a thorough comprehension of the limitations of human responsibility, has led, and now leads, numerous well-meaning and orderly disposed citizens into an improper interference with the rights of others. Many reason from abstract principles without relation to the real condition of things, and thus attempt the justification of actions and conduct which is neither approved by the spirit of religion, nor sanctioned by the instructions of sound reasoning or experience. The conduct of certain classes of society would lead us to suppose that none others possessed rights and consciences excepting themselves, that *they* were exclusively right, and all others as exclusively wrong; and that God held them responsible for all the sins of omission and commission of the whole world. Let me, in a spirit of kindness, most earnestly assure all such persons, whereever they may exist, or in whatever circle they may move, that each individual in society has a mind and conscience of his own, which he will exercise in determining upon his duties, their nature, extent and limitation; and that *he alone* will be responsible for their appropriate, honest and judicious exercise. Let them recollect that peradventure others may be able to see as clearly, to reason as profoundly, to judge as correctly and to draw conclusions as accurately as themselves; and that a love of country and a christian spirit are best evidenced in the practice of mutual forbearance, in the exercise of a disinterested charity, in the cultivation of a spirit of conciliation and harmony, and in sacredly respecting the rights, duties and privileges of others. These are indispensable to the well-being of our government, and accord with the genius of our civil and social institutions. Our political union was the result of a noble and sublime spirit of compromise, concession and forbearance; let the influence of that same spirit rest upon us, and prevail over us, now and always, in the discharge of our civil, social and religious obligations.

In reaching the concluding portion of my subject, I regret that the length of the article will not permit more than a brief allusion to it. My previous observations will prove comparatively useless unless I can to some extent, interest or endeavor to interest the young mind in the pursuits of learning by referring to the encouragements that animate and the rewards that most assuredly follow all intellectual effort when judiciously directed and diligently pursued.

The theme is an inspiring one. It appeals earnestly, eloquently to us all. I would love to dwell upon it. I would love to expatiate upon its merits, sketch its outline with graphic pencil, and paint in vivid colors its dazzling glories. I would love to trace the unfolding of the mind from prattling infancy brilliant in the sunshine of hope and innocence, to eloquent and venerable old age, ripe in years and honors. I would love to watch the growth of its youthful hopes, its early efforts, its maturer years and its last advances to greatness and to power. I would love to recite the simple, yet thrilling tale of the crushed hopes, the agonizing sorrows and the perilous vicissitudes of genius; its rise, its progress, and its splendor: how it labored and struggled for its existence; how it toiled in the field and in the workshop; how the cold chill of disappointment nipped its young and ten-

der blossoms ; how the cruel world scowled upon it in its first successful dawnings into active life; how it alternated between hope and fear midst the bosom of cloud and storm and darkness ; how, at last, it triumphed over every adversity, overthrew every barrier that obstructed its progress, and burst in its full and matured majesty upon the vision of an astonished world. I would love to call back to this life the spirits of those illustrious dead whose works are consecrated in our memories and in our affections, and ask them if they would exchange the glories and triumphs of learning for the richest jewels and the mightiest honors of earth. I would love to penetrate the youthful mind with the value and beauty of knowledge ; to expatiate upon its nature, its personality, its intransmissibility and its permanence; to illustrate and enforce the necessity of perseverance and energy, and to point out the respectability and honor and distinction invariably attendant upon all steady, well directed and resolute effort ; and thus enlist his affections and animate his exertions and cheer and establish his hopes in the cause of human progress. In the course of our previous remarks some of these subjects have been incidentally alluded to, and this article is already extended to a greater length than originally intended.

I have written warmly and earnestly in behalf of individual education. My design has been to awaken an interest in this important subject, and to arouse the young mind to a sense of the absolute and overwhelming necessity of its early and careful cultivation. How far I have succeeded I know not; perhaps the time employed in the effort might have been more profitably expended ; yet, if I have stirred up one mind to thought and action: if I have thrown abroad a single sentiment which may be caught up and rendered useful; if I have elicited a single ray of light to illume the dark and lone path of the care worn student in his wanderings to honor and to fame ; if I have touched though with a rude hand the string in which the soul's harmonies are wrapped up, so that its vibrations pour forth that soul's music, if there is one mind which after reading this, feels more of renewed effort, more of awakened hope, more of re-animated energy to persevere in his toils, then I am amply repaid and satisfied.

I wish to see the fabric of mind built up and unfolded in all its massive grandeur and beautiful proportion. I wish to diffuse the lights of learning, to enthrone the majesty of genius, and to lay broader and deeper the foundations of the greatness and opulence and splendor of a country so dear as is our own to every American heart, and which promises in the lapse of centuries untold happiness to countless millions. *Esto perpetua.*

There is one more thought connected with this exciting theme to which I must allude. It is near and dear to my heart. It has been cherished as the miser, his hoarded treasure or the young mother, her first- born. It has again and again cast forth its heaven light, dispersing the surrounding darkness, and cheering and reanimating my desponding hopes. *It is the eternity of mind.* Aye, its eternity of existence. The massive structures of art may crumble into dust, and the noblest achievements of genius lie prostrate beneath the storms of time ; yet the mind, the immortal mind will survive with all its mysterious faculties, its rich possessions and its glorious endowments. Genius and

imagination, taste and sensibility, science, literature and the arts, all that elevates and refines and ennobles and adorns our spiritual nature, they, too, will survive; and justice herself will survive with all the relations on which her existence depends, she has her abiding place on earth, her throne in heaven, and her existence in intelligent mind. Not more giftedly than sublimely has the poet sung; when speaking of the immortality of the human mind, he exclaims:

"The stars shall fade away, the sun himself
Grow dim with age, and nature sink in years;
But thou shalt flourish in immortal youth,
Unhurt, amid the war of elements,
The wreck of matter and the crush of worlds!"

We live in a period of time where powerful and organized and unexampled efforts are making to multiply the means of education, and render purer and more enlightened the public sentiment. Mighty agents and controlling elements are at work everywhere where christianity and civilization have sown their seeds and planted their standard: and if we do not act with decision and energy, we shall soon be left very far behind those around us. We cannot pause, if we would. There is no time for deliberation. Surely as water seeks its level, surely as to-morrow's sun will rise, surely as civilization elevates the human race, and religion consecrates the best affections: so surely will we be driven into the back ground, if we are not active and intelligent and persevering in our efforts.

We must conduct ourselves as individuals conscious of our position in society and resolved to perform our duty. The age is full of interest, excitement, hope, change; and we must imbue our minds and hearts with its spirit and genius, and launch our enterprize with a generous confidence upon the current of passing events, if we really hope to preserve our learning, our religion and our civilization. There is no other means of progress, no other means of advancement in the arts and sciences, no other means of attaining perfection in all which adorns human character, and imparts value to social intercourse. To these we must look, and upon these we must rely. Come cloud or sunshine, prosperity or adversity, liberty or revolution, we must, we are bound by the most solemn considerations, we are invoked by the spirit of eternal justice and the genius of the loftiest patriotism to sustain all those means, and strengthen and sanctify all those institutions, religious and eleemosinary, literary and scientific which confer individual happiness, develop the social virtues, and establish and perpetuate national freedom and independence.

I cannot more appropriately conclude this article than by quoting the lofty sentiment and beautiful language of one of our mostprofound statesman and gifted orator, himself a splendid illustration of the influence of individual effort and free institutions in elevating *the man* from the obscurity of private life to the proudest and most commanding position in our republic:

"Our proper business is improvement. Let our age be the age of improvement. In a day of peace, let us advance the arts of peace and the works of peace. Let us develop the resources of our land, call forth its powers, build up its institutions, promote all its great interests, and see whether we also in our day and generation may not perform something worthy to be remembered. Let us cuttivate a true

spirit of union and harmony. In pursuing the great objects which our condition points out to us, let us act under a settled conviction and an habitual feeling, that these *thirty-one* States are one country. Let our conceptions be enlarged to the circle of our duties. Let us extend our ideas over the whole vast field in which we are called to act. Let our object be our country, our whole country, and nothing but our country. And by the blessing of God may that country itself become a vast and splendid monument, not of oppression and terror, but of wisdom and peace and of liberty, upon which the world may gaze with admiration forever."

Valley of the Ohio.

BY MANN BUTLER, ESQ.

Continued from page 228, vol. XI. No. 68.

MIGRATION OF BOONE; MCGARY AND RAY; ADVENTURE OF THREE BOYS, IN 1773 AND 1776; FORT OF HARRODSBURG; GRANTS OF LAND BY HENDERSON & CO.; SOCIAL COMPACT FOR THE COLONY OF TRANSYLVANIA, IN 1775; MEMBERS OF THE 1ST LEGISLATURE IN THE WEST.

In despite of these dangers and difficulties so graphically and truthfully pourtrayed by the historian Marshall, who had acted his part in all these various scenes, struggling for life with the wilderness and a wily and savage foe, "there were from a review of the records" more improvements, as cultivation and buildings are expressively termed, "with a view to future settlement in this year (1776), than in any other." Nor were these dispersed parties in so wide a territory so generally exposed as in the fixed and notorious forts.

After the fort at Boonesborough had been completed, Boone returned to North Carolina, a second time, in order to bring his family to Kentucky. He had attempted this in 1773, "in company with five families and forty men who joined," as he says, "in Powell's valley, 150 miles from the now settled parts of Kentucky. But on the 10th of October, 1773, says the same brave old woodsman, "the rear of our company was attacked by a number of Indians, who killed six men and wounded one; of those my oldest son was one that fell in the action."*

This severe repulse had deterred the party from prosecuting their daring enterprise, until the time just mentioned. When McGary's party had arrived at the head of Dicks river, Boone, with twenty-one men, went to Boonesborough, and left his previous associates to find their way, as well as they could, by his directions, through the pathless forest to Harrodstown. At the time of our narrative, there were but four cabins at this place, and five old soldiers in them, who had followed James Harrod from the Monongahela country. This distinguished explorer, (of whom so little is known beyond the kind, affectionate character given him by Mc Humphrey Marshall,) had likewise settled a place known as Harrod's station, about six miles east of Harrodsburg, on the present road from that place to Danville

* Filson.

The families with McGary, having got bewildered, while the horses and cattle were left with the boys, James Ray, John Denton and John Hays, then between 14 or 15 years of age, opposite to the mouth of Gilbert's creek, on the east side of Dick's river, the residue of the party attempted the route by themselves; but McGary, finding no passage at the mouth of Dick's river for the families, on account of the precipitous cliffs which overhung the river, went by himself to explore the way. By accident he fell on the path between Harrodsburg and Harrod's station, and taking the eastern end, it brought him to the latter place, where he got Josiah Harlan, of lamented memory, to pilot the families, as well as the three boys, (who had been left behind to watch the stock of cattle,) in safety to Harrodsburg. Thus was formed the first domestic circle of Harrodsburg by Mrs. Denton, Mrs. McGary and Mrs. Hogan with their families; where was lately the resort of the gayest of the gay among the fashionables of the West and the South.

The younger woodsmen of whom mention had been made, were not, however, relieved until three weeks had elapsed, instead of three days as first promised them by McGary, when they were left on this forlorn hope. Does it not speak volumes for the hardihood of the times, that three boys of such immature years should be left for three weeks by themselves in an Indian wilderness! To add to their distress, they could not have forgotten the fall of three other boys, the eldest hopes of three families, who had been killed by the Indians in 1773, at the *first* attempt of Boone and his company to remove their families to the wilderness of Kentucky. They had been left, almost under similar circumstances, to collect some stray horses in Powell's Valley, when on their route. One of those premature victims to Indian hostility had been a playmate of James Ray, in North Carolina.

During the winter of 1775 and 1776, was begun the fort of Harrodstown, (or Harrodsburg, as it is now better known,) of enduring importance in the early history of Kentucky.

The second attempt of Boone to remove his family to Kentucky just mentioned, seems to have been made about September, 1776. It was in company with a party consisting of Hugh McGary, [afterwards so notorious,] Richard Hogan, and Thomas Denton, with their families, constituting together with Boone and his mere immediate companions, in the language of the times, twenty-seven guns; that is equivalent to twenty-seven fighting men. This party assembled at Powell's Valley, on the head of Holston river, after having waited three months for the junction of Boone's company. They had sent one John Harman before them to raise a crop of corn at Harrodsburg. This labor he performed, in a field east of the present town, where John Thompson lived in 1833. This party seems to have been unmolested; and Boone only says: "we arrived safe without any other difficulties than such as are common to this purpose; my wife and daughter being the *first white* women that ever stood on the banks of the Kentucky river." When McGary's party had arrived at the head of Dick's river, [a tributary of the Kentucky,] they separated from Boone, who with twenty-one men took their course to the new fort, at Boonesborough; leaving their previous associates to find their way to Harrodstown.

At the time of our narrative, there were about four cabins at this latter place, one of which was alone inhabited, and five old soldiers in it, who had followed James Harrod from the Monongahela country. This distinguished explorer had likewise settled a place, known as Harrod's station, about six miles south-east of Harrodsburg.

Scarcely had the fort of Boonesboro' been roughly and loosely constructed, certainly not finished, till the 14th of June, 1775, than these hardy pioneers carrying with them into the wilderness the manly principles of their British ancestors, undertook to organize a form of government in these distant and almost uninhabited forests. This is an interesting portion of western history little dwelt on, and not sufficiently known. It has not received the slightest notice from the earliest historians, not even from the well informed Marshall. The whole affairs of Henderson & Co. seem to have been ignored by this author. But, however unfounded the claims of the company were; they issued grants of land to a great extent; so that by the 1st of December, 1775, 560,000 acres of land were entered, as is presumed, in their office. Deeds of great formality were issued by this company, calling themselves "*Proprietors of the Colony of Transylvania.*" By these deeds, the grantees under the company, bound themselves to pay them "one moiety or half part of all gold, silver, copper, lead or sulphur mines; and moreover to pay the company a rent, as might be agreed on "yearly and for every year." The penalty for not paying this rent, was provided for by a covenant, "that if no sufficient distress can be found on the premises, whereon itshall be lawful for said company to levy such rent, or arrears, with full costs, charges and expenses in making and levying the same, then the present grant and all assignment shall be void and of none effect." The company then reserved a right, "to reenter into the said lands, and regrant the same to any other person or persons whatsoever."* Had this company retained its title, they would, within their purchase, have been under a quit rent to those great proprietors forever.

It is, however, much to be doubted whether the high temper of the western people amidst the vast wilderness of uncultivated land, would have submitted to a state of things which had been a constant source of heart burnings in the elder colonies, and has continued to our own times in the State of New York. Sooner, indeed, than have been anything less than fee simple or allodial proprietors, the hunters of the West, (had they not risen in arms,) would have abandoned the country to those land proprietors for lands to be freely obtained, in terms more suitable to their interests and their feelings. Symptoms of slight hold these terms had upon the hearts of the people, may be inferred from the fact that upon the earliest manifestations of Indian hostilities, 300 men are said to have left the country by July, 1776.† Col. Clark intimates the same, in his memoir, which will hereafter invite the reader's attention. In this, he remarks, that the company took great pains to ingratiate themselves in the favor of the people; but, too soon for their own interest, began to raise upon their lands which caused many complain."

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* Deeds of the Transylvania Company, in the Henderson Papers.

† Correspondence of Col. Floyd.

Notwithstanding these discontents incident to frontier life, the settlers under the company soon proceeded to organize a government for the infant colony. Nor is it one of the least curious in the history of our pioneers, while engaged amidst the perils of wilderness life.

Fragment of Faust.

FROM THE GERMAN OF GOETHE.

MARGARET'S ROOM.

Margaret at the spinning-wheel, alone:

My heart is sad,
My rest is o'er;
I'll find it never,
No, never more.

The grave's my lot,
Where he is not;
To me the world
'S in ruin hurl'd.

Oh my poor head
Is all amazed,
And my poor sense
Seems to me crazed.

My heart is sad, &c.

But for him look I
Through the window out,
But for him go I
From home about.

His lofty gait,
His smiling lips I prize,
His noble figure,
His love-lit beaming eyes.

His words of magic,
Thrilling bliss,
His pressing hand,
And Ah! his kiss!

My heart is sad, &c.

To be near him,
My breast presses,
Did I not fear him,
With wild caresses,

My heart confesses,
Clinging, kissing, I
Would, on his kisses,
Be glad to die.

Gretchens Stube.

Gretchen am Spinnrade allein.

Meine Ruh' ist hin,
Mein Herz ist schwer;
Ich finde sie nimmer
Und nimmermehr.

Wo ich ihn nicht hab'
Ist mir das Grab,
Die ganze Welt
Ist mir vergällt.

Mein armer Kopf
Ist mir verrückt,
Mein armer Sinn
Ist mir zerstückt.

Meine Ruh' ist hin, &c.

Nach ihm nur schau' ich
Zum Fenster hinaus,
Nach ihm nur geh' ich
Aus dem Haus.

Sein hoher Gang,
Seine edle Gestalt,
Seines Mundes Lächeln,
Seiner Augen Gewalt.

Und seiner Rede
Zauberfluß,
Sein Händedruck,
Und ach sein Kuß!

Meine Ruh ist hin &c.

Mein Busen drängt
Mich nach ihm hin,
Ach dürfte ich fassen
Und halten ihn!

Und küssen ihn
So wie ich wollt!
An seinen Küssen
Vergehen sollt'!

THE

WESTERN JOURNAL

and Civilian.

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ARTICLE I.

River and Harbor Improvements by the States.

THE proposition to improve rivers and harbors by authorizing individual States to collect tonnage duties for those objects, has recently assumed a prominence which seems to challenge investigation. It is about two years since this new system was first suggested: and though, as we believe, it received no encouragement from the people of the West—the region where improvements are most needed—we nevertheless find it shadowed forth in the President's Message to the First session of the Thirty-third Congress, and subsequently more fully developed in a communication from a western Senator to the Governor of the State of Illinois, with a request that the subject should be submitted to the Legislature of that State for its consideration.

Assuming that the communication of Senator Douglas was designed as an expose of the evils of the present system, and also to point out the means of accomplishing the improvement of rivers and harbors, in a shorter period, and at less expense, than if left under the control of the General Government, we propose to submit some reflections of our own to the serious consideration of western men.

We most fully agree with Senator Douglas in repudiating, "as unreasonable and unjust, all injurious discriminations predicated upon salt water and tidal arguments," and furthermore "insist that if the power of Congress to protect navigation has any existence in the constitution, it reaches every portion of the Union where the water is in fact navigable, and only ceases where the fact fails to exist." The author proceeds to say "this power has been affirmed in some form, and exercised to a greater or less ex-

tent, by each successive Congress and every administration since the adoption of the Federal Constitution."

But it is now proposed to transfer this power to the individual States with authority to collect tonnage duties, to enable them to make such improvements in their rivers and harbors as the wants of commerce may require. The reasons assigned for this change of system are, the vacilating policy of the General Government in respect to the improvement of rivers in the West, and harbors on the northern lakes; the difficulty of obtaining appropriations for proper objects without embracing others which ought to be rejected; and the want of efficiency, on the part of the government, in prosecuting all works of this nature.

We acknowledge the full force of these reasons, and many are the evils which the West has suffered in consequence of their existence. But if there were no legal objections to the scheme proposed, and were it certain that all the States would agree to cooperate and enter upon the work without delay, yet there are sufficient reasons, as we believe, why the Western States should not consent to the change proposed.

In noticing some of the objections which seem to have been urged against the system, the author says: "No matter who is intrusted with the construction of the works, somebody must foot the bill." And in another place he says: "inasmuch as the expense of constructing river and harbor improvements must, under either plan, be defrayed by a tax upon commerce in the first instance, and finally upon the whole people interested in that commerce, I am of the opinion that the burdens would be less under the system referred to in the message than by appropriations from the Federal treasury." This may be true as a general proportion embracing the entire circle of domestic and foreign commerce, but it appears obvious to our view that were the Western States to undertake the improvement of their own rivers by collecting tonnage duties to defray the cost, a much larger portion of the burden must be borne by them than by the consumers of their products, either in the Eastern States or in Europe. A duty on tonnage affects exports as well as imports, and the producer who should pay one dollar for the privilege of landing a hogshead of tobacco in St. Louis, would never find a market at home or abroad where he could sell the commodity for anything more than if it had been entered free of duty. In this case the tax is not upon commerce,

but upon the producer, upon agriculture. It is true, if Missouri were to undertake the improvement of her own rivers and harbors, the amount of national revenue required to be collected would be less than if the work were done at the charge of the General Government; but, under the new system, Missouri would bear the entire burden of the improvement, and still contribute her full proportion to the revenue collected by the nation for all other objects. Indeed this would be a most humiliating acquiesoence in all the "injurious discriminations predicated upon salt water and tidal argument," which have been made since the adoption of the Federal constitution. The people of the West have been paying taxes for more than sixty years to aid in making improvements on the Atlantic Coast, and now it is proposed to give them the privilege of making their own improvements by taxing themselves. And this too, at a time when the accumulation of money in the national treasury is a source of embarrassment to the government as well as to commerce.

The duties on the commerce of the United States are collected chiefly at New York, and other eastern cities, and a just policy would seem to require that the disbursements from the national treasury should be distributed as equally throughout the Union as the nature of the case will admit. In a financial view, this new system would operate with decided effect against the Western States: for whilst the duties paid on the foreign merchandize which they consume would be disbursed in other parts of the country, they would be compelled to withdraw a portion of their finances from commerce and other objects to carry on their works of improvement.

One of the principal arguments in favor of this system is based upon the immediate necessity of improving western rivers and harbors, and the delays incident to the prosecution of all such works by the General Government. But when will the Territories and new States bordering on the Missouri and upper Mississippi possess a sufficient amount of commerce to improve the navigation of those rivers within their borders? Contending with all the privations incident to the settlement of new countries; remote from the great markets; producing but little to export, and paying high prices for their imports; is it reasonable or just to expect that they would add still more to their privations and burdens by collecting a tonnage duty to improve their rivers? The case of these new

districts is a just illustration of the principle which pervades the whole plan: a principle which discriminates in favor of the strong and against the weak.

But all these objections to the policy of the measure aside, we hold that the plan cannot be carried into effect without conflicting with the rights of the States. The 6th clause of section 9, article 1, of the Constitution of the United States declares that "No preference shall be given by any regulation of commerce or revenue to the ports of one State over those of another: nor shall vessels bound to, or from, one State be obliged to enter, clear, or pay duties in another." Now it is possible that an astute legislator might contrive some way to evade this very plain clause of the constitution, but we are persuaded that it would be exceedingly difficult to devise an efficient plan that would be sustained by the courts. It is true, the States, by consent of Congress, may lay a duty of tonnage; nor does the third clause of the tenth section of the first article, in which this provision is found, limit this privilege to any particular class of vessels: indeed there would have been no propriety in doing so, for the limitation is contained in the sixth clause of section ten. Hence, it is most obvious that the power to lay a duty of tonnage by consent of Congress is limited to foreign vessels.

But more than this, the compact entered into between the State of Missouri and the United States, when the former was admitted into the Union, provides "that the river Mississippi, and the navigable rivers and waters leading into the same, shall be common highways, and forever free, as well to the inhabitants of the said State as to other citizens of the United States, without any tax, duty, imposts, or toll, therefor imposed by the said State." This is something more than an act of Congress. It is a compact between two governments entered into and executed by the parties—*it can neither be repealed nor modified by Congress.* Similar provisions are contained in the acts authorizing the admission of Louisiana, Mississippi, and Iowa into the Union.

In view of these facts, we do not hesitate to affirm, even against the opinions of the President and Senator Douglas, that Congress possesses no power to authorize any State to lay and collect tonnage duties on boats or vessels navigating the river Mississippi or its tributaries, for the purpose of improving the navigation thereof, except in case of foreign vessels.

But should we be mistaken in respect to the power of Congress and of the States over the subject, we are persuaded that it would be as difficult to bring the States to act in concert, as it has been or as it will be in future, to obtain appropriations from the national legislature. Nor would there be much gained, we believe, in the economy of either time or money by transferring the work to the States; for in general they have not shown more efficiency or economy in such matters than the General Government.

But again, let it be admitted that there is no question in respect to the power of Congress over the subject; that the States will agree to act promptly, and that the work can be accomplished in a reasonable time and at the least possible expense; yet, we ask, would the people of the Western States accept of the poor privilege of taxing themselves to enable them to do what it is the duty of the nation to perform? Are they, as American citizens, willing to acknowledge before the world that their government is not only incapable of accomplishing a reasonable undertaking, but that it obstinately persists in refusing to do justice to its constituents? Are they willing that the commerce and general prosperity of the new States and Territories adjacent to the waters flowing into the Mississippi should be crippled and impeded for the want of navigation, until under all their difficulties and privations they grow rich enough to make their own improvements? Are they prepared to adopt a policy calculated to foster and add still more to the money power of the East by compelling our produce and imports to take the railroads to and from eastern markets instead of taking the natural channels by water?

We cannot believe that the people of the West would blindly stultify themselves by the adoption of such a system as that proposed by the President, and advocated by Senator Douglas, even if it were not in violation of the constitution and laws of the country. We trust they will persist in claiming justice at the hands of Congress without abatement of their rights. The difficulties and delays which have been encountered in obtaining appropriations for the improvement of rivers and harbors, in times past, arose in a great measure from a lack of cordial and earnest co-operation on the part of western men and western politicians. Have they not abandoned and sacrificed their interest to party discipline, divided their strength between northern and southern parties, lead on by fanatics on one hand, and political abstractionists on the

other? If so, let us not charge Congress with injustice, but ourselves with folly. The North, the East, and the South, have each a sectional policy and local interests to promote, and whatever be the politics of the people, their public policy is shaped with reference to their respective interests: the West has local interests, but her people have never agreed upon a western policy; hence she can exert but little power in the councils of the nation in favor of western measures. We deprecate sectional or local legislation; but from the nature of our institutions, it is philosophical and just that each important section of the Union should form their public policy in reference to their own peculiar interests. And we are persuaded that until the social and moral condition of men shall attain to a higher standard, this is the only principle upon which justice can be obtained by all the various sections of the Union at the hands of the national legislature.

We charge no individual with neglect of western interest. The acts of our public men are matters of record; it is no part of our present design to examine them. But we must be allowed to express our regret that one of the champions of the West and of western interests has felt himself compelled to acknowledge, in effect, that it is folly to indulge the hope that Congress will ever do justice to the Western States in respect to the improvement of their rivers and harbors. And who can hope when the heart of Senator Douglas fails? We know he has labored long and valiantly in the cause, and though dismayed, we hope to see him return again to the charge. We trust, however, that his communication to the Governor and Legislature of Illinois will do good to the cause: it may be the means of awakening an inquiry into the true reasons why justice to the West has been so difficult to obtain, and so long delayed, and induce them to resolve with one consent to make all party considerations subservient to their claims upon Congress for ample appropriations to improve their rivers and harbors. Let them do this, and be firm, and our word for it, we shall never again have a reasonable cause to charge Congress with injustice to the West in respect to the subject of river and harbor improvements.

ARTICLE II.

[From Hunt's Merchants' Magazine.]

The Cotton Trade.

BY C. F. MCCAY, PROFESSOR IN THE COLLEGE OF SOUTH CAROLINA.

In presenting to your readers the statistics of the cotton trade for the past year, I am compelled by unavoidable circumstances to omit any remarks or suggestions they might present to me. The figures, however, will not be dry or uninteresting, so numerous and varied are the interests connected with this branch of our agriculture and Commerce.

CONSUMPTION.—In *England* the demand for 1853 has been less than for the preceding year, but only a little less. In the first half of the year the amount worked up by the mills was really larger than in 1852; but the Turkish troubles, and the high price of corn, has reduced the consumption very considerably. The Liverpool deliveries to the trade, which constitute more than 95 per cent. of the whole purchases of the manufacturers, have been for the two years as follows :—

	Liverpool Delivery.		Weekly Consumption.	
	1853.	1852.	1853.	1852.
	Bales.	Bales.	Bales.	Bales.
May 6.....	683,000	630,000	38,000	35,000
June 3.....	833,270	870,140	37,900	39,500
July 1.....	989,550	1,000,610	38,100	38,400
August 5.....	1,202,650	1,194,400	38,800	38,500
September 2....	1,306,420	1,340,000	37,300	38,400
October 7.....	1,429,740	1,520,040	35,700	38,000
November 4....	1,545,250	1,701,470	35,100	38,700
" 11.....	1,578,150	1,718,700	35,100	38,200
" 18.....	1,609,500	1,731,100	35,000	37,600

For the whole year the consumption of Great Britain for 1852 was 1,861,200 bales, against 1,663,400 for 1851, and 1,514,500 for 1850, and 1,474,420 for the average of the five preceding years. The falling off for 1854 is not so great as would appear by the reported deliveries, since the stocks in the hands of the manufacturers were estimated to be 50,000 bales more than usual on the first of January last, and at the present time they are supposed to be uncommonly low.

The demand for the coming year must decline. The high price of food must seriously interfere with the domestic consumption of Great Britain. When the cost of the English quarter of wheat is now [according to the average of the 12th of November] 73*s.* 7*d.* against 40*s.* for 1852, the portion of their wages which the laborer and artisan can spare for clothing is much diminished. The scarcity of money, as indicated by an advance in the rate of interest from 2 to 5 per cent., must also discourage the wants of the home

trade. The favorable circumstances, such as the high price of iron, the general advance in wages, the abundance of work for the laborer, the diminution in the number of paupers, will be alike operative for both years. The export trade will be seriously embarrassed by the war between Turkey and Russia. The calicoes sent to Turkey and the Levant, including the plain, printed, and dyed, approach 100,000,000 yards per annum, which is 10 or 12 per cent of the whole export. The cotton yarn is 7 or 8 per cent. The calicoes bought by Russia are few, but the yarn is nearly as much as that sent to Turkey. The demand from both these countries must be very much decreased by the war. From Austria and the other German States a decline must be expected from the same cause. The revolution in China will seriously interrupt the exports to that country. The cotton cloths sold by Great Britain alone to this populous empire are larger than what is taken by Russia and Turkey together. The possession of Nankin, and the control of the great canal by the rebels, the occupation of Amoy and Shanghai, two of the five open ports, by lawless usurpers and robbers in whom the merchants place no confidence, the famine at Pekin, and the alarm and distrust at Canton, will largely curtail the English exports to the Celestial Empire. From Australia and India, the United States and Canada, no falling off may be anticipated; but if we notice the very large business done with these important countries for the year 1853, no increase can be expected for 1854. The failure of the harvests in Lombardy, France, and Germany, and the high price of food in all parts of the continent of Europe, will lessen the demand for English cottons. Everywhere, both at home and abroad, the prospects of the English manufacturers are discouraging.

Under these circumstances, it may be expected that the increase in the consumption of 1852 and 1853 over previous years will be entirely lost, and that the wants of Great Britain for 1854 will not much exceed the average of 1849, 1850, and 1851, which was 1,589,400 bales. It may reach 1,700,000, but its probable limit is 1,600,000 bales.

In *France* the consumption for 1853 is nearly as large as for 1852, and both are decidedly above those of previous years. The deliveries at Havre up to the 16th of November were 349,045 bales, against 367,587 for 1852, and 275,764 for 1851. Our exports to France for 1852 and 1853 have been 421,375 and 426,728 bales; but the stocks on the 16th of November were 36,716 bales in excess of last year, and 37,200 bales over 1851. This would indicate a probable consumption of American cotton for the present year of 390,000 bales; but on account of the unfavorable circumstances at the close of the year, this amount will scarcely be attained. The very great deficiency of the French harvest will lessen the demand for 1854: but as past experience shows that the consumption in the French factories is much more regular than in

England, the wants for the coming year of American cotton will not probably fall below 350,000 bales.

The demand for United States cotton on the continent of Europe has not declined for the year 1853. Our exports to those countries are larger than ever before, and the same is true of the English exports. Ours have been 364,812 bales, against 353,522 for 1852, and 269,000 for 1851. The exports from Liverpool, up to November 18th, were 237,540 bales, those of 1852 having been 219,430. The sum of these two for the whole year 1852 was 636,322 bales, and for 1853 they will be larger. The consumption in the German States, and even in Russia, will suffer but little decline as the demand has for many years been advancing with great steadiness and regularity. For 1854, these countries will probably require not less than 600,000 bales.

For the last year the consumption of the United States has advanced from 603,029 bales to 671,009. The general prosperity of the New England manufacturers and of the country at large, warrants the anticipation of an increase in this demand. The stringency in the money market and the decline in the probable demand for exportation to China, will be more than made up by the increased population of our country, the prosperity of the farmers on account of the high price of breadstuffs, and the abundant crops which have generally rewarded the labors of the husbandman. For the coming year the wants of our manufacturers will probably reach 700,000 bales.

The following table comprises the consumption of 1851 and 1852, the probable result for 1853, and the estimate for 1854:—

	Result for		Estimate for	
	1851.	1852.	1853.	1854.
	Bales.	Bales.	Bales.	Bales.
Wants of G. Britain...	1,663,000	1,861,000	1,700,000	1,600,000
" France.....	310,000	410,000	375,000	350,000
" United States..	404,000	603,000	671,000	700,000
" other countries.	538,000	636,000	650,000	600,000
Total.....	2,915,000	3,510,000	3,396,000	3,250,000

Supply.—In the U. S., a falling off in the receipts will be everywhere experienced; but the deficiency will not be large. The promise in the early part of the year was good, in every part of the country. Up to July the season had been dry; but the drought, though disastrous to the corn, did but little damage to the cotton. On the uplands, the weed was stunted, but on the good lands, especially on the river bottoms and in swampy localities, the fields could not look better. The abundant rains that set in during July and August stimulated the plant on the uplands, and appeared to help it; but the new fruit thus produced was generally cut off by the frost on the 25th of October. On the low grounds where the weed was thriving, on the appearance of the rains the squares

dropped very extensively, and the late fruit in some places was ruined by the frost. In very many places, however, the plant was not killed, and the fine weather that followed the frost brought out the crop most wonderfully. It was feared that the excessive wetness of the season would encourage the production of the caterpillar and the boll-worm; and on many plantations, indeed, they made sad havoc; but they did not appear so extensively as was feared, and their ravages were not general.

From South Carolina and Georgia a considerable decline might be expected. The first crop of bolls was small, on account of the drought; the second was lessened by the rains; and the third was generally cut off by the frost. But many places have escaped one or the other of these calamities; and the deficiency of the receipts at Charleston and Savannah will be made up in part by increased shipments from Columbus and the Tennessee River. Instead of 813,000 bales for past year, 750,000 may be expected for 1854. From Florida the falling off will be small. The crops on the Flint and Chatahoochee rivers are much better than they were last year, and were it not for the Muscogee Railroad, there would be an increase rather than a decline. The worm and caterpillar have done some damage. But the planting has been larger; they have had no disastrous storm; and the October frost did not everywhere stop the growth of the plant. The estimate for 1854 may be put at 160,000 bales. From Alabama the reports are various and contradictory. Up to July the promise was never better. The wet weather brought the boll-worm on many plantations, and its ravages at some places were very great. The forms fell off very rapidly: many blossoms were killed. The fine prospects of the summer were by this time injured. The frost then came and destroyed all hope of the late crop of bolls: but in many districts the growth of the cotton was not interrupted by this frost, and during the whole month of November the fine weather for opening and gathering the late crop favored the planters very much.

For Mobile the receipts may be anticipated to be about the same as for the last two years. Similar remarks apply for the most part to New Orleans. The worm was more disastrous in Mississippi and Louisiana, than it was in Alabama; and the malignancy of the yellow fever interrupted at many places proper attention to the crop. A slight decline may be anticipated, therefore, for New Orleans. From Texas, on account of the increased number of planters and the favorable seasons, a small increase over last year may be looked for. From the whole country the receipts may be put at 3,000,000 bales, as in the table below. The great falling off in the receipts for the first part of the season, would appear at first sight to warrant the prediction that the whole crop would be very small. But last year the rivers were very favorable to early shipments from the plantations to the seabord; and the extraordinary continuance of the yellow fever at the Gulf ports, and its unusual

malignity, have, for the present season, discouraged the planters and steamboat owners from forwarding to an early market, the cotton that was otherwise ready for shipment.

	Crop of 1851. Bales.	1852. Bales.	1853. Bales.	Estimate for 1854. Bales.
Texas	46,000	64,000	86,000	90,000
New Orleans	933,000	1,373,000	1,581,000	1,400,000
Mobile	452,000	549,000	545,000	545,000
Florida	181,000	189,000	179,000	160,000
Georgia	322,000	326,000	350,000	325,000
South Carolina	387,000	477,000	463,000	425,000
Other places	34,000	37,000	59,000	60,000
Total	2,355,000	3,015,000	3,263,000	3,000,000

The supply from the East Indies will be large. The troubles in China, whither a large portion of their exports is directed, have diverted an unusual amount of cotton from Canton, to Liverpool and London. The imports into Liverpool alone from Surat, Madras, and Bengal, were, on the 18th of November, 277,544 bales, against 124,306 for the year 1852. The whole English receipts were 221,500 bales for 1852, and 328,800 for 1851. Of these amounts the Liverpool receipts were 156,673 and 232,100. If the same proportion yet prevails between the Liverpool and the London imports, the receipts for Great Britain of East India cotton for 1853, will exceed 400,000 bales. For the year 1854, the revolution in China will produce a more decided effect on this diversion of the trade, than it has hitherto done. The English prices which always influence very largely the amount of Indian imports, do not promise so favorably as last year. Balancing these two causes, the estimate for 1854 may be put at 400,000 bales.

From Egypt, Brazil, and the West Indies, the supply has been on the increase for the last four or five years. For the two years, 1847 and 1848, it averaged 136,450 bales. For 1849 and 1850 it was 251,350. For 1851 and 1852 it was 263,850. For 1853 the receipts at Liverpool up to the 18th of November were 219,451 bales against 244,939 for the preceding year. As the whole English receipts for 1852 were 346,700 bales, the smallness of the decline at Liverpool authorizes the expectation that at the end of 1853 they will reach 300,000 bales.

Will this be lessened for the incoming year? No serious falling off can be expected in the South American and West India exports. These constituted for 1851 and 1852 more than half of the receipts, and for 1853 they were two-thirds. In the Egyptian, a decline may be expected on account of the Turkish troubles. But as the planting of the crop took place before these difficulties became serious, the deficiency of the present year will be but slight.

Not less than 250,000 bales may confidently be anticipated for 1854.

The supply then from all these sources will probably reach 3,650,000 bales, against nearly four millions for 1853, as appears from the following table :

	Result for		Estimate for	
	1851.	1852.	1853.	1854.
	Bales.	Bales.	Bales.	Bales.
United States	2,355,000	3,015,000	3,263,000	3,000,000
East Indies	329,000	221,000	400,000	400,000
Other places	181,000	347,000	300,000	250,000
Total	2,865,000	3,583,000	3,963,000	3,650,000

PRICES.—As this estimate is 400,000 bales above the probable demand at present prices, according to the estimate given above, it would seem impossible to sustain the rates at which cotton is now selling. The stocks are already large, on account of the immense production of last year. On the first of September the amount of old cotton in our ports was 135,648 bales against 91,176 for the year 1852. On the first Friday of October it was in Liverpool, 770,770 bales against 506,670 in 1852. At Havre it had increased by October 14th, to 53,586 bales over the preceding year. The accumulation at these places having advanced more than 350,000 bales during 1853, furnishes a proof that the large crop of the past year has not been consumed. The great deficiency in our receipts at the seaboard, for the early part of the present season, and of our exports to foreign countries, does not permit the enhanced amount of stocks to be now so apparent as it otherwise would be.

Since then the stocks increased largely in 1853, and promise to continue to advance still more for the present year, it would seem impossible that the market price for cotton should continue above the average rates. For the last fourteen years, from 1840 to 1853, the average price has been 8 cents and 7 mills. The exports to foreign ports for the first ten of these years, amounted in all to 7,128 millions of pounds; for the last four they have been 3,570 millions. The value of the first ten was 552 millions of dollars: of the last four, 381 millions. For the whole period, 10,698 millions of pounds were exported for 933 millions of dollars, giving the average price just mentioned. The present price at Charleston, [December 9th, 1853,] for middling is 9¼, and for good middling 10 cents. These rates being decidedly above the average, cannot well be maintained, in the face of the large supply and the diminished demand, while food remains dear and money scarce, while actual war is raging between Russia and Turkey, and imminent danger of general hostilities impends over the principal states of Europe. The large demand in the United States, both for the raw material and for English cotton goods, the im-

mense trade opened in Australia, and the general prosperity in the English colonies and in Mexico and South America, will prevent a serious decline. But that prices must fall below the average of past years appears to be plainly foreshadowed by the history of the past and the circumstances under which the new year opens.

ARTICLE III.

The Vineyards of Ohio.

The following statement of grape culture and wine making in the vicinity of Cincinnati furnished by R. Buchanan, Esq., to the Columbian and Great West, exhibits a most encouraging account of this interesting branch of industry.

It would afford us great pleasure to receive from some of our Missouri friends a similar statement of the progress of grape growing in our own State.

WESTERN VINEYARD STATISTICS.—THE VINTAGE OF 1853.

At your request I present you with the following account of this year's vintage in the vicinity of Cincinnati, and statistics of vine culture in the West, prepared from data in the possession of the Cincinnati Horticultural Society and the Wine Growers' Association of this city, and from my own personal knowledge and observation. It may be relied on as nearly accurate.

Within a circle of twenty miles around Cincinnati, about 1,200 acres are planted with the vine, some 800 acres of which were in bearing this year, and produced on an average 400 gallons to the acre, an aggregate of 320,000 gallons of wine. Some of the best vineyards yielded 600 to 800 gallons to the acre, but others, in localities where the "rot" prevailed, did not average over 150 gallons per acre. The season was considered very favorable, and the crop unusually large.

The *new* wine sells at $1 to $1.10 for the best, 75 to 90 cents for second quality, and 40 to 50 cents per gallon for inferior. The average yield for a series of years may be safely estimated at 200 to 250 gallons to the acre from the vineyards in this vicinity.

Product of a few of the vineyards the present year :

Sebastian Blintz,	5½ acres,	5,300 gallons.
T. H. Yeatman	7½ "	5,600 "
H. Duhme,	16 "	10,000 "
Jacob Mument,	1½ "	1,224 "
R. H. Houges,	1 "	830 "
R. Buchanan,	5 "	4,236 "

Dr. Rehfuss, David Ross, Mr. Brandt, Mr. Sleath, and some others make about the same average. This shows what the vine can be made to produce in good seasons by careful attention and judicious cultivation.

Estimated number of acres in vineyard culture in the Ohio Valley :

Cincinnati and vicinity.....	1,200 acres.
Ripley "	110 "
Maysville, Ky. "	50 "
Louisville, "	30 "
Vevay, Ia. "	20 "
Charleston, "	180 "
Intermediate places	110 "
	1,700 acres.

Mississippi Valley.

St. Louis, Mo., and vicinity,.....	40 acres.
Hermann, "	450 "
Belleville, Ill. "	20 "
Other places.....	50 "
	560

Wine Cellars of Cincinnati and vicinity.—Sparkling Wines, Bottled in 1853, and estimated for 1854.

	Cellars.	1853. Bottles.	1854. Bottles.
H. Longworth.....	3	151,000	200,000
G. & B Bogen.....	2	39,000	50 000
M. Werk	1	10,000	30,000
McConkey & Morsell ..	1	26,000	
Carneau & Son	1	5,000	
Total.....	8	234,000	280,000

Still Wines.	1853. Bottles.	1854. Bottles.
Longworth & Zimmerman.....	75,000	80,000
G. & P. Bogen	10,000	20,000
McConkey & Morsell, L. Rapposa, T. H. Yeatman, Corneau &		

Son, H. H. Southgate, J. D.
Park, and others, supposed...120,000

Total.....205,000

What is not bottled is sold by the cask in this city and elsewhere generally within a year or two after it is made, at from $1 to $1. 50 per gallon. So great has been the demand for these wines that it is difficult to find any *old* wine for sale. The consumption keeps pace with the production, and instead of the increased cultivation reducing prices, they are rather on the advance.

It may be safely assumed that this branch of agriculture will ere long take rank as an important item in American industry.

Many persons believe that the introduction of pure light wines of native growth, at cheap rates, will do more to aid the cause of temperance than stringent legislative enactments; but this is a matter of opinion, in which, of course, the *ultra* temperance men will not coincide.

Vineyard Culture, Statistics, Position and Soil.—A warm hill-side, a ridge, or any undulating surface, is preferred to a flat one, and a dry calcerous loam, rather than a rich soil. Good under-drainage is essential.

Planting, &c.—The ground is trenched with the spade, 2 feet deep, or worked deeply with a sub-soil plow. Cost of spading $50 to $150 per acre, of plowing, much less.

The vineyard is planted in April, with cuttings (cost $2.50 per 1000), or roots one year old (cost $25 per 1000), usually three feet apart by six feet in the rows; 2,420 vines to the are.

Culture. — The first year after planting, in March the vine is cut down to a single eye, or bud; the second year to two, and a stake, 6 or 7 feet long, driven down by each vine; the third year, a small crop may be expected; and the fourth year a good one. The ground is kept clean with the iron plow or cultivator, the vines tied up close to the stakes, and superfluous shoots removed. After the fourth year, the *bow* and *spur* system is adopted.

The vine bears no fruit on the wood of the preceding year's growth; two shoots are always trained for bearing the ensuing year. One of these is cut down in the spring to six or ten joints, and bent in the form of a bow, and fastened to the stake with a willow tie. This is to bear the fruit. The other is cut back to two joints, as a *spur*, to produce bearing wood for the next year, and also a few bunches of grape. Summer pruning and hoeing requires prompt and judicious attention. A bushel of grapes in bunches will weigh about forty-five pounds, and the average yield of juice is three and a half gallons to the bushel.

The whole cost of a vineyard up to the fourth year will range from $200 to $550 per acre.

Gathering the fruit and making the wine may form subject matter for another article, if desired. The Catawba is our *great* wine grape. Scarcely any other variety is now planted here. It is a native of North Carolina, was introduced into notice by Major Adlum, at Washington City, and by Mr. Longworth in the West, thirty-three years ago. Of this grape, we make two kinds of wine —the sparkling and the still or dry wine. The first resembles Champagne, and to make it requires very deep, well arched stone cellars, large casks of 1,000 to 5,000 gallons—the supervision of an experienced wine cooper from Europe, and a large outlay of capital. The effervescence in this wine is caused by arresting the second fermentation, and sweetening with syrup of rock candy. It takes a year to ripen, and the usual breakage is about ten p. cent. The price is $12 per dozen.

The still wines are generally the pure juice of the grape, without any admixture. The bottling requires but little art, and the wine will keep sound in any good, common cellar. The cost is $5 to $8 per dozen, as to quality.

Mr. Longworth is the father of successful vineyard culture in the West. He took it up after others had failed, and by means of his large capital and indomitable perseverance, after numerous experiments with foreign and native vines, he was enabled to point out the true course to be pursued, and which all now follow. The wine growers of the West owe him a debt of gratitude which can never be cancelled.

ARTICLE IV.

(From the Mining Magazine.)

Cast Iron Rails for Railroads.

Why cannot cast iron rails be used for railroads? is a question which has been examined at considerable length by Mr. R. W. Hughes, the able and accomplished editor of the Richmond (Va.) *Examiner*. We are not able to go over the whole ground in the present number of this Magazine, but will notice the important considerations in favor of cast iron rails, with the intention of returning to the subject again. — After speaking of the importance of the subject, Mr. H. proceeds:

If this be so in reference to roads now in course of construction, the difficulty will be increased with the growing demand for other roads. These facts, together with the present high price of railroad iron, constantly press the question upon the intelligent mind —"Why cannot cast iron rails be used on railways?"

This fact is daily before our eyes, that cast iron is made to bear the heaviest burdens that can be imposed. It forms a part of almost all machinery, and is subjected to enormous strains. With it we construct houses and build bridges. It is given the preference over wrought iron for railroad car wheels, which when running at sixty miles an hour, make about nine hundred revolutions per minute—the cast iron wheels thumping the road with the momentum due to that velocity. All these things are constantly presenting the important inquiry, whether cast iron rails may not be safely used on roads? It is known to be vastly cheaper than rolled iron, and can be made at a profit for one third the price of rolled iron. It requires no very great expenditure to prepare the works requisite for its manufacture, but may be run into bars directly from the ore, which abounds along many of the projected railway lines of Virginia.

Supposing its substitution practicable, no limit can be set to the industry and enterprise it at once calls into being. It invites population into our mountain land, now waste and barren, yet teeming with iron. It multiplies their value to owners, and increases the fund for taxation of our State. It projects railroads by enabling them to be built by persons along their lines, who, by labor alone, could convert their iron lands and ore into active capital. By doing these things it would so far cheapen railroad transportation, as to make those works far greater beneficiaries to the public, than they now can be.

Indeed, no single result could be imagined which would tend so much to develope the resources of Virginia, and stimulate her enterprise, as the adoption of cast iron rails on her projected railways. It would advance internal improvements in the State at least twenty years, and afford a cheaper, and it is believed more durable structure, than we now have.

But the advantages which must result from the successful application of cast iron rails to railway tracks, are far too numerous to be detailed. They suggest themselves to every reflecting and intelligent citizen. The question is, can cast iron be advantageously used on railways?

Whether all our ores will be suitable for the purpose, we shall not undertake to decide; but that we have large bodies of iron ore which, directly from the blast, will make more durable rails than many we now import, we have not the slightest doubt. The Lynchburg and Tennessee Railroad runs through the county of Wythe, and within five or six miles of a body of iron ore, equal, if not superior, as it has often been competently pronounced, to any in the world. It is better than the Swedish — it is better than the Pennsylvania Juniata. It is unlimited in quantity, and may be gathered from the surface of the earth. Wood in abundance, and mountain streams for driving machinery are at hand; and withal, the iron is of so tough a texture, that castings, such as pots and

ovens, made for the neighborhood, have frequently been tried by being pitched some ten or fifteen feet, several times, into a pile of stones, by the foundryman himself, under which severe test very few instances have been known of their being broken. Yet a railroad is to run for miles along this great iron deposit, the rails of which are ordered from England!

Descend one of those English mines, where for ages the work of excavation has been going on; go down a thousand feet or more, traverse these caverns for miles under the earth, until you are told the ocean is rolling above your head, and at the farthest extremities of these infernal caverns you will find men plying the pick-axe, and extracting iron ore. You will find railway tracks throughout one of these abodes of Pluto and Vulcan, leading to the shaft. Here a car is filled with ore. Inquire the destination of this car. The answer—calculated to astonish a citizen of Wythe—would be this: It is to be sent several miles to the shaft; then to be raised up a thousand feet to the surface of the earth; then hauled to the foundry to be made into pig metal; then to the rolling mill to be converted into bars, then to the sea-coast to be shipped to the other continent. After crossing the Atlantic Ocean, some three thousand miles, it is to go up James and Appomattox Rivers; to be discharged at Port Walthal; to be hauled by railroad to Richmond, and thence by wagons from the depot to the canal; thence along the canal to Lynchburg, and thence by railroad and wagons to Wythe county, Virginia, to be distributed along the Lynchburg and Tennessee Railroad, which runs over great iron deposits of that country, where iron lies upon the surface, of a much superior quality, and has to be removed out of its way in excavating for its track!

This case is similar to hundreds of others — and the practical remedy for this state of things is the adoption of cast iron rails. Public opinion at first obstinately pronounced that cast iron wheels could never be used—that they would break under the velocity required of them. Economy rendered it absolutely necessary to try them, and they have been found not only cheaper, but, in fact, to wear longer than wrought iron wheels.

Strange as it may seem, all the early writers concur in stating, that cast iron rails were used before the wrought, and that the latter were introduced chiefly on the ground that they were cheaper than cast iron rails — cheaper for the reason as then contended, that wrought iron rails being not so likely to break, might be made much thinner and lighter than cast iron, and would be more economical in that way. Since it has been found necessary to increase the thickness and weight of the rail, for the purpose of firmness and steadiness in the superstructure, it has never occurred to the engineer to return to the cast iron rails.

Experience has shown that wrought iron rails wear out rapidly,

and this although they are now made heavier than it was supposed would be requisite even for cast iron.

From an essay on this object, by Ellwood Morris, Chief Engineer, Philadelphia, published in the Journal of the Franklin Institute, in the year 1841, we extract the following observations on this subject:

"We are informed in Wood's treatise upon railroads, that in the early part of the seventeenth century, railroads were first used in England, and they were then formed of wood; the wooden rails used for about one hundred years, when in 1767, cast iron rails were first introduced and thereafter continued for a period of nearly fifty years, to be used instead of any other materials; but in the year 1815 malleable iron rails were devised, and after Mr. Birkinshaw, in 1820, had obtained his patent for an improvement in the form of such rails, and applied the rolling mill to their manufacture, they were very extensively adopted, and subsequent to that period of time have been almost exclusively used. The chief reasons which seem to have induced engineers, both here and abroad, so much to prefer malleable before cast iron rails, as to exclude the latter from use, appear to have been originally a belief that

"1. Malleable iron rails were cheaper than those of cost iron.

2. Malleable iron rails being made in longer lengths caused fewer joints.

3. Malleable iron rails were less liable to fracture from concussion.

4. Malleable iron rails were thought to be somewhat more durable."

The writer then takes up these reasons *seriatim*, and shows how little they are worth when tested by experience.

That the first and principal reason for the introduction of malleable iron rails, their greater cheapness, has no foundation in truth — is apparent to everybody at all conversant with the iron business; and yet all the early writers on this subject, concur in stating this as the chief reason for their introduction at the time.

Secondly. That cast iron rails may now be made from sixteen to twenty feet in length, about as long as the rolled we are accustomed to see.

Thirdly. While malleable iron rails, of equal weight, may be less liable to fracture from percussion than cast iron rails, yet there is no such impinging direct force on the rails in working a road suitably constructed, as would be likely to produce this. He compares the relative strength of the two metals, and makes the cast iron rails proportionably heavier. He denies that the liability to fracture, at high velocities, is greater than when going slow, but shows the greater the velocity the less will be the vertical pressure, and says upon the same principle it is that a musket ball shot par-

allel along a horizontal plane, so as barely to touch it tangentially will not press upon the plane at all within the limits of its level or point-blank range.

Whether these views agree or not with those commonly entertained concerning fast trains on railways, they are nevertheless, legitimate deductions from the established doctrine of forces, and serve to account for the small effect produced by the ordinary inequalities of a railroad, as shown in the results displayed by the following direct experiments touching this matter, which were made by Professor Barlow, and recorded in his work on the "Strength of Materials," English edition, 1837. These experiments are conclusive, and establish beyond question the fact, that the vertical stress imposed on a railway by the transit of locomotive engines of velocities ranging from twenty-two to thirty-two miles an hour, is but little, if any, in excess of that produced by a quiescent load of the same weight.

More experiments by Professor Barlow were made with an ingenious and accurate instrument, to determine the deflection of rails under trains running at high speed, and as the deflection of the material under a strain is as the insistant weight, the vertical pressure upon the rails is by this means accurately indicated.

Again he says, after quoting largely from Professor Barlow's experiment: "These experiments having demonstrated as they distinctly do, that the vertical stress of trains at speed surpasses so little the effect of quiescent loads of the same weight, that it is only necessary to proportion the rails of railroads to resist quiescent and not concussive forces, to change the whole face of the question between cast and wrought iron rails—they strike away all the objections heretofore urged against the brittleness of cast iron, for it does not admit of doubt, that a beam of that material, of suitable proportions, is quite as competent to carry a quiescent load, as one of malleable iron." Again: "A cast iron rail will yield sufficiently to impart a return to its proper level the moment it is relieved of the weight of a train—for it is well known that its elasticity and power of restoration after deflection, is within certain limits so perfect, that owing to its regularity in that respect, it was even proposed by Tredgold to use beams of cast iron as weighing machines, measuring the weights imposed by the deflections produced."

From the various experiments made, he deduces that the proportion between wrought and cast iron rails, should be 1 : 1 3-10 —and says these calculations refer to rails supported at intervals only, but if the plan of continuous bearings should be adopted on railways, the propriety of which has been strongly urged by English engineers, as a perfect remedy for acknowledged defects— all objections against cast iron rails must wholly vanish.

An elaborate and able report was made by a select committee of the Pennsylvania Legislature in 1843, on the propriety of relaying

the State railroads with cast-iron rails. This report, together with the facts and arguments in our former article, we deem conclusive as to the commercial and practical adoption of cast-iron rails. It is impossible to controvert them with argument, and we feel just as confident that actual experience will confirm the deductions of the report.

The rapid destructableness of wrought-iron rails has been more and more apparent from the day the report was made, up to the present time. This results from two causes: first, from the increased weight of the locomotive, and secondly, from the great demand for railroad iron. This latter cause induces a demand for all material which can be made into railway bars; and the consequent hurry in which they are made, withdraws from them that special attention which was devoted to their manufacture in earlier days.

We therefore repeat our conviction, that cast-iron rails may be made which will prove better, in all respects, than most of the English rails we are daily importing.

Why have not cast-iron rails been generally introduced? To this there are several answers, and not one affects their fitness for this purpose. Since the introduction of railroads, the world has never stood still long enough to think. A railway mania pervades the land, and it has crushed every obstacle which has opposed it. Reflection would have required time, and none of the persons or States which have been engaged in the eager race of internal improvement, would consent to exercise it, but preferred imitation. Hence the fact, that the railway system has undergone no positive changes since its first introduction—with the exception of the now *universal adoption of cast-iron wheels instead of wrought iron* —a matter taken up, as it were, on the wayside, in order to supply the absolute demand for constant repairs resulting from the use of wrought-iron wheels.

Secondly. Whose duty was it to introduce cast-iron rails? That of chartered companies, in which it was every man's business who had a personal interest in the road—and what is every man's business, is generally regarded as nobody's.

The construction of roads is always left to the engineer, and suggestions as to the mode of building them would be expected to come from him. But he, like the rest of the world, has had little time for study and reflection, and, deriving a comfortable living from the present plan of railway, would not be apt to originate suggestions where failure would involve him in loss of professional reputation.

Captain Moering, an engineer in the service of Austria, writing upon this subject, says "he eagerly sought, in this country, from engineers and others conversant with the subject, information relative to cast-iron rails, and after a deliberate examination of the questions which arose, he was impelled to the conclusion that *cast*

ron rails had not been rejected from the American railways in consequence of any defect inherent in that material;" but that "this rejection, or omission, appears to have resulted partly from the surprising celerity with which these works were simultaneously urged forward; partly from the inexperience of many of the engineers, necessarily employed, in consequence of the great demand at the time for men of that profession having induced a number of unqualified persons to throw themselves into it; partly from a want of due deliberation consequent upon the rapid progress of the railways, which favored imitation, rather than reflection; partly from the vigor with which rolled-iron rails, *then exempt from duty by law*, were pushed into use in every quarter of the country by interested parties; and partly from a long chain of fortuitous circumstances, which conducted to the results we have witnessed, *without deciding the merits of the technical questions involved.*"

If railroads were private enterprises, we have no doubt cast-iron rails would long since have been brought into use; for the projector being the owner, upon him alone would fall the failure; but with chartered companies, each member is unwilling to take the responsibility of suggesting anything new, for fear of failure.

Upon an examination of the report, as well as our references in a former article, it will be seen that the only suggestions heretofore made, and deemed sufficient to render cast-iron rails entirely suitable for railways, were, first, to lay them on continuous wooden sills; secondly, to increase the weight of the cast-iron over the wrought-iron rail, in the proportion of 6 to 7; and, to make assurance doubly sure, as it is expressed, to cast, as suggested by Mr. Morris, a small wrought-iron rod in the top table of the cast-iron rail, so as to keep the parts together in the event of fracture.

At first view this seems a great additional safeguard, and ought to have insured the adoption of cast-iron rails; but we are assured by one who has paid a great deal of attention to the subject, that the suggestion was impracticable — the rod, upon coming in contact with the melted iron, being twisted by expansion out of line with the cast iron at many points. Besides, it is questionable whether so small a rod would not itself become so much hardened, as to impart but little additional strength to the cast iron. That the rod would not be kept in line, one time in ten, when merely laid in the mould, he satisfied himself by actual experiment. This may have had its effect on the recommendation contained in the report we publish.

But the other suggestions render the use of cast-iron rails entirely practicable; and we have lately seen a section of cast-iron rails, with a wrought-iron rod cast throughout their centre—a feat which has been rendered practicable by a very simple device, and which enables the road to be so constructed that it is impossible, even in the event of a fracture of one of the rails, for it to get out

of place. If, therefore, the rails be laid on continuous wooden bearings, the fracture of the rail would only make another joint to it, and nothing more. There is thus provided, what we believe every practical man will pronounce, who will examine it, a far better and more economical material for our railroads than the present wrought-iron rails.

We, therefore, in this substitution of cast-iron for wrought-iron rails, propose a protective tariff, such as no one can reasonably oppose.

We say the State, in building her railroads, should use for that purpose her own iron, particularly when she has often to dig it up out of her way to locate the track, of a far better quality than she can import.

And while she may not deny to her railroad companies the privilege of using what iron they please, or buying it where they choose, she can simply say, I cannot be a partner with you, unless you agree to use cast-iron, after demonstration of its fitness for rail.

ARTICLE V.

[From the American Railway Times.]

Pacific Railway Through Texas.

The following is an act lately passed by the Texas Legislature to provide for the construction of the Mississippi and Pacific Railroad:

SEC. 1. Be it enacted by the Legislature of the State of Texas, That for the purpose of aiding in the construction of a Railroad from some point on the eastern boundary line of the State of Texas, not north of the town of Fulton, in the State of Arkansas, to a suitable point on the Rio Grande, at or near the town of El Paso, there be and is hereby appropriated and set apart to any company or companies who may undertake and construct said road, twenty sections of land, of six hundred and forty acres to the section, for each and every mile of said road which may be constructed and put in complete operation according to the terms of this act, to be selected and patented, in the manner hereinafter provided for.

SEC. 2. That a right of way not exceeding three hundred feet in width, be and the same is hereby set apart and granted along the entire length of said road, through the public lands of the State of Texas, to be held and enjoyed for the uses and purposes of said road forever, and that all earth, stone, timber and other material, of whatsoever character and description, on the public lands, so

long as they shall remain the property of the State, in the vicinity of said road, be and the same are hereby made subject to the uses and purposes of said road, as well in the construction thereof as with supplying the same with the necessary furniture and machinery, to be made available as occasion may require, by those employed in the construction, management or working said road; provided, That said Company shall not be allowed to use any timber which may be upon the alternate sections reserved to the State, except upon the three hundred feet granted as the right of way, after the completion of the road.

SEC. 3. That the said road shall be constructed throughout in a thorough, substantial and workmanlike manner, with all necessary drains, culverts, bridges, viaducts, crossings, turnouts, sidings, stations, watering places and all other appurtenances, including equipment of locomotives of sufficient speed and capacity, commodious and comfortable passenger cars and freight cars adapted to the business to be done, and equal in all respects and at all times, to a road of the first class when thoroughly organized for business; to be under the constant supervision of a sufficient number of skillful engineers, to be employed by the Directors of said road; the rails to be of the best quality, weighing not less than sixty-four pounds to the yard; fifty miles of said road to be finished and put in complete operation within eighteen months after entering into the contract hereinafter provided for, and at least one hundred miles thereof to be finished and put in operation in like manner every year thereafter, until the whole shall be completed.

SEC. 4. That it shall be the duty of the Governor of the State immediately after the passage of this act, to advertise in such public newspapers as he may judge proper, not exceeding twelve in number, inviting proposals from companies or individuals for the construction of said road, which proposals shall be filed in the office of the Secretary of State, at such time as the Governor may direct, provided said bids are made on or before the first day of August next; and shall specify the time at which the work shall be commenced; the number of miles to be finished and placed in running order within the first eighteen months and each year thereafter, and at what time the entire road shall be completed, together with the amount proposed to be deposited in the Treasury of this State, according to the terms of this act, to be forfeited in case fifty miles of said road shall not be completed within eighteen months from the time of entering into the contract hereinafter provided for.

SEC. 5. That it shall be the duty of the Governor, as soon as practicable, to select from the proposals so made, that one which in his judgment, under all circumstances of the case, shall offer the strongest assurances and guaranties that the road will be promptly and substantially built in its whole length, according to the provisions of this act, and to enter into contracts for the con-

struction of the same, which contracts shall so cover in detail, all the provisions of this act, as to secure the construction and maintenance of a road, at all times equal in all respects to a road of the first class when thoroughly organized for business; and in case those whose proposals may have been accepted, fail or refuse to enter into the contract, then the said Governor may contract with any company or individuals for the construction and maintenance of said road according to the provision of this act.

SEC. 6. That said contractors, their associates and successors, and those who may become stockholders in said company shall be, and they are hereby declared to be, a body corporate for and during the term of ninety-nine years, by the name and style of the Mississippi and Pacific Railroad Company, and under that name capable of suing and being sued, impleading and being impleaded in law and equity, in all Courts and places whatsoever, in like manner and as fully as natural persons, and by said corporate name and style shall be capable in law of contracting and being contracted with; shall have the power of acquiring by purchase, donation or otherwise, real and personal estate, holding and conveying the same, and all other powers, immunities, rights and privileges necessary to carry into full effect the provisions of this act.

SEC. 7. That said corporation is hereby authorized and empowered to survey, locate, construct, complete, alter, maintain and operate a railroad, with one or more tracks or lines of rails from a point not north of the town of Fulton, in the State of Arkansas, to some suitable point on the Rio Grande, at or near the town of El Paso; and for the purpose of effecting the desirable and national object of constructing a continuous and national railway from the Mississippi River to the Pacific Ocean, said company are hereby authorized to form connections and enter into agreements with such other companies as they may see fit, and where such companies are united by such agreements properly entered into and recorded in the office of Secretary of State of this State, they shall be regarded as one corporation, with all the rights, immunities and privileges necessary to accomplish the object, not inconsistent with the constitution and laws of the United States, or any of the States through which the said road may be constructed.

SEC. 8. That the capital stock of the company shall be twenty millions of dollars, which may be increased from time to time to any sum not exceeding the entire amount expended on account of said railroad, divided into shares of one hundred dollars each, which shall be deemed personal property, and may be subscribed for, issued and transferred in such manner and at such times and places as may be prescribed in the by-laws of said company.

SEC. 9. That said contractors shall have power to organize said company by calling a meeting of the stockholders, at such time and place as they might deem expedient, to elect a Boord of

Directors, to consist of not exceeding fifteen members, one of whom shall be chosen by the Directors to act as President, and said Directors so elected shall have power to appoint such other officers and agents as they may think proper, and to adopt such by-laws as may be necessary, not inconsistent with the Constitution of the United States, nor the Constitution and laws of the State of Texas, a copy of which by-laws shall be filed with the Secretary of State, and published in at least three newspapers in the State; to provide for the meetings of the Board of Directors; appoint and dismiss officers and agents; regulate the manner of voting of stockholders; direct the manner in which the shares shall be sold, transferred or forfeited; to establish from time to time rates and charges for the transportation of freights and passengers; to make, have and use a common seal, and alter the same at pleasure; issue bonds of not less than five hundred nor more than one thousand dollars; to borrow money upon the bonds of the company or otherwise, for the purpose of constructing said road, with power to mortgage the same to secure the payment of said bonds and loans with the interest thereon: provided, that at the first election of Directors as herein provided, the Directors shall regulate the manner in which stockholders shall vote.

SEC. 10. That said company may construct its road over or across any stream or body of water, road, highway, or across any other railroad, and through any lands owned by individuals or corporations, and in all cases where lands belonging to individuals or corporations shall be taken by said company, it shall be lawful for the owner or agent of such person or corporation to appear before the District Court of the county where such lands are situate when the damages claimed amount to one hundred dollars or more, or before the nearest Justice of the Peace, when the damages are one hundred dollars or less; and said suit shall proceed and be conducted according to the laws in force regulating proceedings in the District Court and in Justice's Courts, as the case may be, and the question of damages shall be tried by jury, sworn and empannelled as usual in said Court, to assess the damages caused by taking such lands, and said jury in rendering their verdict shall take into consideration whether the enhanced value of the residue of the land belonging to such person or corporation has not been by means of said road increased in amount equal to the damages, and if so they shall render a verdict in favor of said company, otherwise against it, for the amount of damages which he, she or they may have sustained, provided that in no case shall said company be bound to pay costs, if it satisfactory proves that an amount equal to the damages assessed by the verdict of the jury, was tendered to the party suing before institution of the suit, and the payments of such damages, before or after a judgment, shall operate so as to vest in said company a full and complete title to such land not exceeding three hundred feet width.

SEC. 11. That said company, after they have commenced receiving toll on any section of fifty miles of said road, shall be bound at all times to have the same in good repair, and a sufficient number of suitable carriages and vehicles for the transportation of persons and property.

SEC. 12. That said company, person or persons, shall within sixty days after entering into the contract, as herein provided for, deposit with the Treasurer of the State of Texas, at least three thousand dollars in gold or silver, or evidence of debt of the State of Texas, or other good par stocks, as a guarantee that fifty miles or more of said road shall be constructed and in complete order for business within the term of eighteen months from the date of said contract, and if fifty miles or more of said road shall be constructed and in complete order for business within the term of eighteen months from the date of said contract, and if fifty miles or more of said road be completed according to the contract, then the Governor shall cause the said money or stock to be returned to said company; and in case of a failure upon the part of said company, then such money or stocks to be forfeited to and become the property of the State of Texas; and in case of failure to deposit said amount, within the time prescribed, said contract shall be null and void, and the Governor is hereby authorized to enter into another contract, as near as may be in the terms of this act with any other company or individuals for the like purposes.

SEC. 13. That it shall be the duty of the company, so soon as the track of said road may be selected, to cause the vacant lands to be surveyed into sections of six hundred and forty acres each, for thirty miles on each side of the same, and as soon as said company shall have completed fifty miles of said road according to the terms of the contract, they shall be and are hereby authorized to select and designate to the Governor an amount of land to be taken in alternate sections, so that no two sections so selected shall join each other except at one corner, equal to twenty sections for every mile of road so finished, which lands so selected and designated to the Governor, shall be patented to said company or their assigns, free of all costs; and in like manner for each and every section of said road, until the whole shall have been finished; provided, that said road shall cross the Rivers Trinity, Brazos and Colorado as near the 32d degree of north latitude as practicable.

SEC. 14. That all of the vacant and unappropriated public lands belonging to the State of Texas, east of the 103d parallel of longitude west from Greenwich, and embraced between the parallel of latitude 31 degs. and 33 degs. north, and all of the vacant and unappropriated lands belonging to the State, west of the 103d deg. of longitude, and embraced between the parallels of latitude 30 deg. 30 min. and 32 deg. north latitude, be and the same is hereby held in reserve by the State, for the purposes herein set forth, until the track of said road is located by said company; from

and after which time there shall be held in reserve by the State, for the purposes above set forth, all of the vacant and unappropriated land belonging to the State, lying within thirty miles on each side of said road, until the same is surveyed and located in accordance with the provisions of the 13th section of the act; provided, that if there should not be a sufficient amount of vacant and unappropriated land belonging to the State embraced in the above last reservation to fully satisfy the amount of land to which said company may be entitled by virtue of a compliance with the provisions of this act, that the Governor cause to be issued by the Commissioner of the General Land Office, certificates for six hundred and forty acres each, to said company, for the balance they may be entitled to, which may be located upon any other vacant and unappropriated land belonging to the State, in such manner that no two sections shall join, except at one corner, at the proper cost and charges of said company or their assigns, which shall be patented to said company as other lands; provided, that the alternate sections herein reserved to the State, shall so continue to be reserved to the use of the State until otherwise directed by law; and further provided, that said survey shall be made in a square, and those adjoining the road shall front one mile thereon and no more, unless prevented by surveys made previous to the passage of this.

Sec. 15. That should the said company fail at any time to finish the length of said road contracted to be completed within the term specified in the contract, the said contract, with the powers, privileges and immunities, together with such parts of the road as may have been constructed with all its machinery and appurtenances, shall be forfeited to and become the property of the State of Texas, reserving, however, to said company the right to prosecute and defend all suits and rights or liabilities which may have accrued or been incurred prior to such forfeiture.

Sec. 16. That should the said contract become forfeited, it shall be the duty of the Governor of the State, to re-advertise and re-let the said road to other contractors, conforming himself in all respects as near as may be, to all the terms and conditions of this act, and such subsequent contractors shall be fully invested with all the powers, rights, privileges and immunities of the first contractors, and subject to the same terms and conditions.

Sec. 17. That the lands granted to said company by this act, shall be alienated by said company, as follows: one-fourth in eight years, one-fourth in ten years and one-fourth in twelve years, after the same shall have been selected and located by said company.

Sec. 18. That the sum of one thousand dollars, or as much thereof as may be necessary, be and the same is hereby appropriated out of any money in the Treasury, not otherwise appropriated, to enable the Governor to carry into effect the provisions of this act.

Sec. 19. That this act shall not be so construed as to affect any right of location or entry, pre-emption right or survey heretofore acquired in the district of country reserved and set apart for the use of said road; and that this act take effect from and after its passage.

ARTICLE VI.

[From the American Agriculturist.]

Hybridizing.

The annexed article on hybridizing we take from McIntosh's Book of the Garden, now publishing in parts in Edinburgh. It is said to be from the pen of Mr. Anderson, one of the most scientific and skillful operators in Great Britain.

To those who would attempt the hybridizing or cross-breeding of plants, I will now offer some suggestions for their guidance. It is an essential element to success that the operator be possessed of indomitable patience, watchfulness, and perseverance. Having determined on the subjects on which he is to operate, if the plants are in the open ground, he will have them put into pots, and removed under glass, so as to escape the accidents of variable temperature, wind, rain, and dust, and, above all, of insects. A greenhouse fully exposed to the sun is best adapted for the purpose, at least as regards hardy and proper greenhouse plants. Having got them housed, secure a corner where they are least likely to be visited by bees or other insects. The plants which are to yield the pollen, and the plants which are to bear the seed, should be both kept in the same temperature; but where this cannot be managed, pollen from an outside plant, in genial summer weather, may be used, provided it can be got; for there is a class of insects which live exclusively on pollen, and devour it so fast after the pollen-vessels open, that, unless the plant is under a handglass, [which I would recommend,] it is scarcely possible to get any pollen for the required purpose. To sesure against chances of this nature, a sprig with opening bloom may be taken and kept in a phial, with water inside, where it will get sufficient sun to ripen the pollen. But here, too, insects must be watched, and destroyed if they intrude. An insect like, but smaller, than the common hive bee, which flits about by fits and starts, on expanded wings, after the manner of the dragon-fly, is the greatest pest, and seems to feed exclusively on pollen. The hive bee, the humble bee and wasp give the next greatest annoyance. All these may be excluded by netting fixed over apertures from open sashes or the like. Too much care cannot be bestowed on excluding these intruders, whose single touch, in many cases, might neutralize the intended result; for the slightest application of pollen native to the parent plant is said by physiologists to supersede all foreign agency, unless, perhaps, in the crossing of mere varieties; and the truth of this observation consists with my own experience. Without due precaution now, the labor, anxiety, and watchfulness of years may issue in vexation and disappointment. As a further precaution still, and to prevent self-fertilization, divest the blooms to be operated on not only of their anthers, but also of their corollas. Remove also all contiguous blooms upon the plant, lest the syringe incautiously directed, or some sudden draft of air, convey the native pollen, and anticipate the intended operation. The corolla appears to be the means by which insects are at-

tracted; and though, when it is removed, the honey on which they feed is still present, they seem puzzled or indifferent about collecting it; or if, haply, they should alight on the dismantled flower, (which I never have detected,) the stigma is in most cases safe from their contact. It will be some days — probably a week or more, if the weather be not sunny—ere the stigma is in a fit condition for fertilization. This is indicated by many families, such as Ericaceæ, Rosaceæ, Scrophularineæ, Aurantiaceæ, &c., by a viscous exudation in the sutures (where these exist) of the stigma, but generally covering the entire surface of that organ. In this condition the stigma may remain many days, during which fertilization may be performed; and this period will be longer or shorter as the weather is sunny or damp or overcast. In certain families, such as the Malvaceæ, Geraniaceæ, &c., where the stigma divides itself into feathery parts, and where the viscous process is either absent or inappreciable by the eye, the separation of these parts, the bursting of the pollen, the maturity of the stigma, and all which a little experience will detect, indicate the proper time for the operation, sunny or cloudy weather always affecting the duration of the period during which it may be successfully performed. As to the proper time and season best adapted for such experiments, a treatise might be written; but here a few remarks must suffice. As for the season of the year, from early spring to midsummer I would account the best period; but, as I have just observed, I regard all cold, damp, cloudy, and ungenial weather as unfavorable. On the other hand, when the weather is genial, not so much from sun-heat as at times occurs from the atmosphere being moderately charged with electricity; when there is an elasticity, so to speak, in the balmy air, and all nature seems joyous and instinct with life; this, of all others, is the season which the hybridist should improve, and above all, if he attempts muling. The hybridist should be provided with a pocket lens, a pair of wire pincers, and various-colored silk threads. With the lens he will observe the maturity of the pollen, and the condition of the stigma, whether the former has attained its powdery, and the latter (if such is its nature,) its viscous condition. If he find both the pollen and the stigma in a fit state, he will, with the pincers, apply an anther with ripened pollen, and by the gentlest touch distribute it very thinly over the summit of the stigma. The operation performed, he will mark it by tying round the flower stalk a bit of that particular colored silk thread which he wishes to indicate the particular plant which bore the pollen, and at the same time tie a bit of the same silk round the stem of the latter, which will serve till recorded in a note-book, which should be kept by every one trying experiments on a large scale.

It is quite unnecessary to offer any directions as to the results to be effected. If it is desired to reproduce the larger, finer-formed, or higher-colored bloom of a plant having a tall, straggling, or too robust a growth, or having too large or too coarse foliage in a plant without these drawbacks, I need not suggest to select in another species of the same family, a plant of an opposite character and properties — say of dwarf, compact growth, handsome foliage, and free-flowering habit; and if such can be obtained, work with it, making the latter the seed-bearer. Or, if it be desirable to impart the fragrance of a less handsome kind to another more handsome, I would make the cross upon the

latter. I cannot speak with certainty from my own experiments, how far perfume may be so communicated; but I have some things far advanced to maturity to test it; and I entertain the hope that fragrance may not only be so imparted, but even heightened, varied, and improved. Or if it be desired to transfer all or any valuable property or quality from a tender exotic species to a native or hardy kind, work upon the latter; for so far as constitution goes, I agree with those who hold that the female overrules in this particular. I would offer this caution to those who wish to preserve the purity of certain flowers for exhibition, especially those having white grounds, not to cross such with high-colored sorts. I once spoiled a white bloomed Calceolaria for exhibition, by crossing it with a crimson sort; all the blooms on those branches where the operation had been performed being stained red, and not the few flowers merely on which the cross was effected. In this note, already too long, I cannot further illustrate my remarks by recorded experiments in the various tribes upon which I have tried my hand; but I cannot leave the subject without inculcating, in the strongest manner, the observance of the rules I have laid down to prevent vexatious disappointments. If any doubts arise about the cross being genuine or effectually secured, let not the seeds be sown. Three, four, five, and even six years, must oftentimes elapse with trees and shrubby things ere the result can be judged of; and if eventually it prove a failure, or even doubtful, it is worse than labor lost, inasmuch as it may mislead. If there is no great departure from the female parent, the issue is to be mistrusted. It is singular, if well accomplished, how much of both parents is blended in the progeny. Gentlemen eminent as physiologists have read nature's laws in these matters a little differently from what my own humble experience has taught me, and assigned to the progeny the constitution and general aspect of the one parent, while they gave the inflorescence and fruit to the other. I have crossed and inverted the cross, and can venture to give no evidence on the point, except, perhaps, as to constitution, to which the seed-bearer, I think, contributes most. A well-managed hybrid should and will blend both parents into a distinct intermediate, insomuch so as to produce often what might pass for a new species. If the leaning be to one more than another, it is probably to the female, though this will not always be the case. Again, it is asserted that a proper hybrid—i. e., one species which is separate and distinct from it—will produce no fertile seeds. This does not accord with my observations. Dr. Lindley has remarked very justly, (Theory of Horticulture, p. 69,) "But facts prove that undoubted hybrids may be fertile." My hybrid, *Veronica Balfouriana*, (an intermediate between *V. saxatillis* and *V. fruticulosa*,) seeds, I would say, more abundantly than either parent; and the progeny from its self-sown seeds I find to be of various shades of blue, violet, and red, rising in my garden, some having actually larger, finer, and higher-colored blooms than the parent bearing the seed; and I am familiar with the same result in other things. Yet I am far from asserting fertility in the produce between two members of allied but distinct genera—such, for example, as in the *Brianthus*, which I have found to be unproductive, whether employed as male or female parent. As above conjectured, its parents were far too remote in nature's own arrangement. The hybridist has

a field before him ever suggestive of new modes of acting. He may try, as I have done, what may be effected under various-tinted glass. My persuasion is, that I effected from a pale yellow, a pure, white-grounded Calceolaria, by placing the plants under blue-shaded glass, by which the sun's rays were much subdued. He may also apply chemical solutions to plants with ripening seeds. Nature, in producing, as it sometimes does, plants with blooms of colors opposite to those of the parent, must be governed by some law. Why may not this law be found out? For example, under what influence was the first white Fuchsia, the *F. Venus Victrix*, produced, the purest yet of all the race, and the source from which all the whites have been derived?

ARTICLE VII.

Banks and Banking in Massachusetts.

We publish the following article which appeared in the *Boston Atlas*, of 24th ult., for the purpose of showing our western readers the nature of the basis upon which the Massachusetts Bank notes now in circulation here, have been issued. It will be seen that in October, 1853,, the Banks of Massachusetts, out of Boston, 108 in number, had a circulation of more than twenty-five dollars in paper for one of specie in their vaults; and yet more applications are before the Legislature for increasing of banking capital. We have no desire to depreciate the paper of the Massachusetts banks, but we are constrained to express the opinion that a currency resting upon a basis so artificial and slender, is not entitled to the confidence of people residing beyond the limits of the State in which it is issued.—*Sen. Ed.*

"It will be seen by the proceedings of the Legislature, that numerous petitions have been presented for an increase in bank capital. We know that, until the last session of the Legislature, there had been but little increase of bank capital for several years, although there had been a great increase of business. During the last session there was an increase of more than ten millions. Ten millions is a large sum for a single year. There are already numerous applications for bank capital this session, and no doubt there will be others. The granting of one charter will be the signal for other applications. We presume that some charters will be granted, and the capital of some of the existing banks will be increased. But we trust that the Legislature will move with caution.

We agree fully with the opinion expressed by the Executive, that the present policy of Massachusetts is a 'wise policy,' and that it has proved 'safe;' but this system, like every other, may be carried too far. It is wise and safe while it is kept within reasonable bounds; but if it is pressed beyond that, it will prove both unwise and unsafe. The ability of the banks to redeem their bills, rests

not upon the specie in their vaults, but upon the securities they hold—that is, upon the notes of individuals and corporations taken for money loaned. So long as discounts are made with care and prudence, the banks will be able to redeem their bills. But when a large amount of bills of any bank are in circulation, and the notes held by the bank shall, from any cause, prove worthless, it is clear that they must have something else on which to fall back, or they will be unable to redeem their bills. Our banking law contemplates that the banks will have specie in their vaults to meet such an emergency. But how stands the case at the present time. By the bank returns, made in October last, it appears that the 143 banks in the State, with a capital of $48,050,000, and a circulation of 30,400,000, had only $3,731,000 of specie in their vaults. And this was the state of things on a given day, when they were prepared to make the most favorable show. Ordinarily, we presume, that the amount of specie would be still less, and the circulation more. We presume, that, at this very moment, the specie in the vaults of the banks would not amount to one twelfth of the bills in circulation.

In fact, the returns show that the 108 banks out of Boston had, in October, a circulation of $20,792,083, while their specie amounted to only $810,609, which is less than four per cent. We could select individual cases which would be still more unfavorable. Now it is manifest that if there be an increase of bank capital, this amount of specie will be proportionately less. A new bank must obtain a new set of customers, and must, in certain cases, take second or third rate paper, and hence increase their liability to losses. The Legislature, therefore, should be cautious in granting new charters, and in increasing the capital of the banks already in existence. We trust that the pleasing hope of obtaining a larger revenue from the bank tax will not induce the assembled wisdom of the State to grant whatever is asked for. We hope that measures will be adopted to secure a larger amount of specie in the banks. It would, beyond all question, be a salutary provision of law, to require of every bank an amount of specie bearing a certain proportion to their circulation, or their capital. Such a provision would check, in some degree, the applications for new banks, and give, at the same time, greater security to the public.

In legislating upon this difficult subject, we should look at every interest in the community, and interpose such checks as will secure to the great mass of the people, the bill-holders, the greatest safety consistent with the public interest. In a system like ours, everything depends upon the character of the individuals to whose hands the management of our banks is entrusted. But the State should be extremely cautious not to lead even honest men into temptation, lest they ruin themselves, injure the public, and bring dishonor upon the State. A crisis like that of 1837 would, we fear, find our banks unprepared for the emergency."

A Sketch of the Exploration of the River Amazon under the orders of the Government of the United States by Lieut. Herndon.

By Mann Butler.

Among the contributions to physical geography, so beneficial to mankind and honorable to governments, the exploration of the river Amazon, under the orders of the government of the United States, by Lieut. Herndon, holds a high rank. This most laudabe policy was begun by our government, under the presidency of Jefferson, by despatching Capts. Lewis and Clark, in 1804, to ascend the Missouri river, and explore a route to the Pacific ocean. It was followed by the employment of Capt. Pike, to explore the waters of the Arkansas; and Doctor Dunbar, of Natchez, those of the Washita. Since these early adventures in the infancy of our government and the immaturity of American science, reconnaisances of the highest geological science have been undertaken under the patronage of the government by Nicollet, Doctor Owen, Schoolcraft and Fremont.

Pursuing the same line of enlightened policy, the government of the United States, in 1850, directed Lieut. Herndon to undertake the examination of the Amazon, and the general resources of its country. These orders were received at Lima from the Navy Department on the 4th of April, 1851, by the hands of Passed Midshipman Lardner Gibbon. This last mentioned officer was associated with Herndon in his perilous commission. The route of the expedition was very properly left to the discretion of the officer, to be guided by information gathered on the spot.

On the 20th of May, 1851, these gentlemen set out with Don Manuel Ijurra as guide and interpreter, with a few attendants and servants, consisting in all of five persons besides the arriero or muleteer, and having four saddle-mules with seven burden ones. The party left Lima furnished most fully with passports from the government of Peru. The road lay on the left bank of the river Rimac; where it passed that river, the bridge was built in the following rude style: "Heavy rough stone-work is built on each side of the river, into which are inserted massive pieces of timber, standing out a few feet from the face of the masonry, and hewn flat on top. On their ends are laid trunks of trees, crossing the river, and securely lashed. Athwart those are laid sticks of wood of some two or three inches diameter, lashed down, and covered

over with *bundles of reeds, mud and stone.*" At sixty miles from the Pacific, the party had crossed the great western divide which separates the waters of that ocean from those of the Atlantic; here one of our countrymen dropped a piece of moss into one of the heads of the eastern waters, fancying that "it might meet with silent little messengers cast by the hands of sympathizing friends and countrymen high upon the head waters of the Missouri or away in the Far West," upon the distant fountains of the Missouri."

But before we are hurried on this most adventurous expedition, it becomes necessary to apprise the reader of a most disinterested act of self-devotion on the part of these true sons of Neptune. Two fellow-countrymen alone, on the distant shores of Peru, off the decks of the favorite craft of their profession, amidst foreigners not too well disposed to Americans, and hordes of savages, who after three hundred years of Spanish dominion in South America, are still unsubdued, filled with the ardor of patriotic duty, consented to separate from one another, one to explore the *Huallaga* and *Ucayalu*, branches of the Amazon on the north, the other to examine the southern tributaries of the same mighty stream.

At the head of the valley of *Acobamba*, near *Jurin* on the map, they parted on their country's noble errand, and until we hear from Midshipman *Gibbon*, we will proceed with Lieut. *Herndon's* most exciting report.

About three miles from *Morocaocha* a fine view of the mountain of Puy-puy, said to be higher than Chimborazo, itself 21,440 feet, or over four miles, above the surface of the ocean, was obtained. So destitute of timber is the western slope of the Andes that, as in our own Plains, nearer home, the fuel is the *taquia*, or dried cattle manure, felicitously denominated by our hunters *buffalo chips*. Our travellers could not at first overcome a "fastidiousness in objecting to a mutton chop broiled on a coal of this kind." On the 5th of June, our party arrived at *Tarma*, a town of about 7000 inhabitants, 148 miles from Callao; the head of its valley was 11,270 feet above the level of the sea, and in latitude 11°, 25′, 5″, S. By July 6th tne travellers arrived at *Coro Pasco*, about 13,802 feet above the level of the sea, with a population varying, according to the yield of the silver mines, from 6,000 to 15,000 souls. This is in the heart of the mining country. These mines are said to have yielded "about two millions of dollars a year,

which is nearly equal to the yield of all the rest of the mines of Peru together. From the date of the discovery of these mines, in 1630, to the year 1849, 475,000,000 of dollars are calculated by M. Castelnau, from all the data within its reach, to have been produced, making an annual average of $2,170,000. After leaving the mass of accumulated suffering from disease, want of provisions, and every discomfort of life, in these secluded and lofty repositories of the precious metals, the party left the western Cordillera or ridge of the Andes. From this lofty elevation, by a sudden descent from rugged mountain peaks, where no cultivation flourishes, the travellers were, in fifteen minutes, brought to fruit trees and patches of sugar cane; they had now got on the banks of the *Huallaga* or *middle* branch of the Amazon, between the *Maranon*, [a name sometimes applied to the whole stream,] and the *Ucayali*, an *eastern* branch of the great mountain stream. Three hundred and thirty-five miles from Lima brought our party to the *Tingo Maria*, that is, the junction of two streams, which in this instance were the *Manzon* and the *Huallaga*.

It was now the first of August, and the party had to pass the gigantic course of the great continental river of South America, reaching by its windings 4,000 miles, and 2,600 direct to the ocean. The distance from Lima to Tingo Maria may be passed with loaded mules in twenty-one days by one route, and in nineteen by another, direct from Lima to Cerro Pasco; our travellers went round by Tarma. Mules may be had at Lima for 75 cents per day, their feed 12½ cents; their load will average 260 pounds each. From *Tingo Maria*, our travellers proceeded down the vast river before them, in *two canoes*, the largest about forty feet by two and a half broad, hollowed out from a single log, and manned each by five men and a boy. By this conveyance they would make about forty-five miles a day, averaging five miles an hour, with the current at 3½ miles per hour, and the rowing at one and a half an hour, for nine hours a day. Monkeys, parrots and pumas or American tigers swarm along the banks; clouds of insects, sand-gnats and musquitoes infest the air, covering both natives and strangers with cataneous sores of a malignant character. The vampyre bat measuring two feet across the extended wings, abounds; and though its blood-sucking is not doubted in its own country, Lieut. Herndon only heard of its being called in question when he got home. He describes it as "a very disgusting look-

ing animal, though its fur is very delicate, and of a glossy, rich maroon color. Its mouth is amply provided with teeth looking like that of a miniature tiger. It has two long and sharp tusks in the front part of each jaw, with two smaller teeth, like those of a hare or sheep between the tusks of the upper jaw and four (much smaller) between those of the lower; there are also teeth back of the tusk, extending far back into the mouth. The nostrils seem fitted as a suction apparatus. Above them is a triangular, cartilaginous snout, nearly half an inch long, and a quarter broad at the nose; and below them is a semi-circular flap as nearly the same breadth, but not so long." Still the Lieutenant never saw these bats in the act of sucking blood, nor did he enquire of the Indians, whether they had done so; though he saw the horses bleeding from the supposed bite of the bat.

To balance this account of wild animals and poisonous insects, and snakes, it is only fair to mention the capacities of the country for cocoa, coffee, sugar, cotton, and the richest and most varied woods; the minerals of the mountains are too familiar, and their precious value too well known to dwell on.

By the 25th of September, the party started to ascend the Uncayali. This is the longest known tributary of the Amazon above the Brazilian boundary, and is sometimes called the main trunk of the Amazon. Our travellers limit this name, however, to the stream formed by the junction of the Maranon and the Huallaga. This ascent was difficult on account of the rapidity of the stream, and the high stage of water. The navigation of this stream is well believed to extend for 1,040 miles, making a total to the ocean of 3,360 miles: while that of the Huallaga from the Pongo de Chasuta to the sea is 2,815 miles. Our party was stopped at *Sarayacu*, 270 miles from the mouth, and yet had cost them twenty-three days in the ascent. Here the scarcity of hands and provisions, but what was still more fatal to our enterprising countrymen, the fear of the *Infidels*, or unconverted Indians, utterly prevented the further examination of this great branch of the Amazon.

Many interesting particulars respecting this stream are given from the account of M. Castelnou.

This gentleman set out on the 21st of July, 1846, from Cuzco, in lower Peru, with a considerable party, and enjoying the patronage and assistance of the Peruvian government; and after seven

days' travel, and passing the Andes at a height of 14,840 feet above the sea, arrived on the *Urubamba*, *Vitcomayo*, *Vilcanola*, or *Yucay*, as it is variously termed. The difficulties of this descent were so great, on account of the rapids, that the party took thirteen days to descend 180 miles, with a powerful current in their favor. Here was the first impassable barrier to the ascending navigation. Our travellers returned to the Amazon, and proceeded on their way amidst hardships and difficulties, which must be read to be appreciated.

As a specimen, however, of the want of even substantial food in this tropical land of profusion, they did not taste wheaten bread for five months, being the time passed between Huanaco in Alto Peru, and Egas in Brazil, about midway between Loreto on the Peruvian frontier, and Barra on the lower Amazon.

At this latter point, the party arrived on the 6th of January, 1851. The town is built on the left bank of the Negro. This is another of the wonderful streams of this wonderfully watered country. It derives its name from the very dark color of its waters, giving the color of the Bohemian glass, without its bri liancy, to bodies dipped in it. Brazil embraces both banks of the Amazon to *Tambatinga*, and extends about two degrees north of that river, to the confines of the Guianas, French, Dutch and British; and has communications into New Granada and Venezuela. In the latter country the Negro interlinks with the *Cassiquiari*, a natural canal between it and the mighty *Orinoco*, a twin-brother of the Amazon. It is navigable for ships of almost any draught for 400 miles to the rapids, and requires fifty-one days, or about 800 miles of navigation, to reach San Fernando on the Orinoco. "Most of the vessels which ply forth on the Negro and Orinoco, are built at or near *San Carlo*, the frontier port of Venezuela, situated above the rapids of the Negro, and are sent down those rapids and also up the Cassiquiari and down the Orinoco to Angostura" [p. 279.] There is another communication with the Orinoco, passing above the mouth of the Cassiquiari by the cano or of Pimichim; and a portage of six hours brings the traveller to the Atabapo, a tributary of the Orinoco. The capacities for social and physical development which this country presents, justly throw our Lieutenant into the following ecstasies at the contemplation: "We have here a continent divided into many islands, [for most of its great streams inosculate] whose shores produce, or may be made

to produce, all that the earth gives for the maintenance of more people than the earth now holds. We have also here a fluvial navigation for large vessels by the Amazon and its great tributaries of [in round numbers] six thousand miles, which does not include the innumerable small streams that empty into the Amazon, and which would swell the amount to ten thousand; neither does it include the Orinoco with its tributaries on the one hand, nor the La Plata with its tributaries on the other; the former of which communicates with the valley of the Amazon, by the Cassiquiari, and the latter merely requires a canal of six leagues in length over very practicable ground, to do the same thing." [p. 281.] In these bright anticipations of the future of South America, Lieut. Herndon is fully corroborated by "Humboldt the greatest cosmographer that the world has yet known." "The Cassiquii are," says that illustrious explorer, "as broad as the Rhine, and the course of which is 180 miles in length, will no longer form in vain a navigable canal between two basins of rivers, which have a surface of 190,000 square leagues. The grain of New Grenada will be carried to the banks of the Rio Negro; boats will descend from the sources of the Napo and the Ucayali, from the Andes of Quito and upper Peru to the mouths of the Orinoco—a distance which equals that from Timbuctoo to Marseilles. A country nine or ten times larger than Spain, and enriched with the most varied productions, is navigable in every direction by the medium of the natural canal of the Cassiquiari and the bifurcation of the rivers." [p. 281.] Well does our enterprising and patriotic countryman observe that "a glance at the map, [and most extensive maps accompany this account,] and a reflection upon the course of the trade winds will show conclusively that no ships can sail from the mouths of the Amazon and Orinoco without passing close by our southern ports. Here, then, is the natural depot for the rich and varied productions of that vast region. Here, too, can be found all that the inhabitants of that region require for their support and comfort; and I have not the slightest doubt that, if Brazil should pursue a manly policy, and throw open her great river to the trade of the world, that the United States would reap far the largest share of the benefits to be derived from it."

The next great branch of this world of waters is the Purus; this stream, at the distance of 250 miles from the mouth, communicates by a succession of lakes and the *Parana Pishuna* with the

Madeira branch of the Amazon. It has other connections with the Madeira, higher up the stream. This Brazilian province of Amazonas, the most westerly on the great river from which it derives its name, abounds in the most profuse variety of valuable woods: there are "twenty-three varieties of palms, all more or less useful, some for cordage, for the manufacture of hammocks and for thatching. "Roofs of houses thatched with the gigantic leaves of the *Bupa* will last more than ten years." [p. 285.] Of trees fitted for nautical construction there are twenty-two kinds; for the construction of houses and boats thirty-three; for cabinet work twelve, some of which, as the *tortoise shell wood*, are very beautiful."

The *Tarpagos* river becomes the next most interesting stream owing to its connexion with the La Plata to the south. This inter-communication of great rivers (so rare out of South America) whose mountains are almost all thrown upon its western edge, proceeds thus. From *Santarem*, one mile from the mouth, to *Itaituba*, the navigation is good for large vessels for 200 miles; then for boats of six or eight tons, by paddling, poling or warping, to the *Rio Preto*. On this stream it takes two months to the head of navigation; then a portage of 15 miles reaches the village of *Diamantino*, on the dividing ridge between the northern and southern streams. This is a country rich in diamonds and minerals of the most precious kind; from *Diamantino* to *Cuiaba* the distance is 90 miles, the road crossing the Paraguay sometimes fordable for mules. *Cuiaba* is a town of 10,000 inhabitants, on the river of the same name, a confluent of the Paraguay, itself navigable for the large vessels to the ocean, without any impediment. Another communication with the *Cuiaba* river exists by the river *Arinos*, a tributary of the *Tarpajos*, within 18 miles; and there so level as to admit of hawling the boat over by oxen to a point above the city where the stream is navigable, we may say to the Atlantic ocean. Of this diamond region many particulars are gathered by our explorer; but at a length which the reader had best consult in the original text, as indeed the whole presents a mass of intelligence, spirit and patriotism most honorable to Lieut. Herndon and the gallant service to which he belongs.

The last stream that will be noticed in this "world of waters," is the *Tocantins*, or if we take the largest and most direct branch, the *Araguy*. This has a course of 420 leagues, and after uniting with the Tocantins, one of 113 leagues more, making a total

of 1,599 miles. This stream is navigable at all seasons, within 150 miles of the city of *Goyas*, and in rainy seasons within a few leagues.

On the 11th of April, 1852, our explorer reached the city of Para, about 80 miles from the mouth of the Amazon, or its Para mouth, the end of his most meritorious labors. This city is the capital of the province of Para, and contains a population of 9,-284 free persons and 4,726 slaves. It is the chief place of the province, in command, as in government.

But Brazil holds tenaciously to the exclusive navigation of the Amazon which belongs to her territory for so great a length as 22 degrees of longitude, close to the equator, or between 1,500 and 2,000 miles by the meanders of the river. Such has been the jealous policy of all the European sovereignties on this continent, and still continues with Great Britain as to the St. Lawrence. A brighter day seems to be dawning on the States situated on the upper water and collateral streams of this, indeed, *sea-like* river. Peru has most liberally united with Brazil to patronize the establishment of steamboats on their enormous navigation of the Amazon stretching at once from the very margin of the Pacific to the Atlantic. *Bolivia* stoutly refuses her assent to any monopoly of her waters, and *Ecuador* has recently opened her waters to the commerce of the world. If Brazil could from the activity and capital of her subjects supply the mighty demands of this new world of waters and exuberant climes, it might be well to keep it in the hands of her own people. But she is manifestly incompetent to so gigantic a task, and which has enhanced in difficulty and amount beyond all compulsation by the free spirit breathed into the almost inanimate provinces of Spain and Portugal. The commercial world at large, can only do the work. The rights of the upper States must accumulate in a mass that will, like their own mountain avalanches, overwhelm all obstruction by war, if not removed in peace. The proposition that the owners of the mouth of any great river are competent to control the lower navigation to the detriment of States and people on the upper waters on the same stream, is too monstrous a barbarity to be tolerated by any people able to defend their rights. The ocean, the maritime world, and free access to it, are the gifts of God; they are matters of right and sacred justice, which ought never to be surrendered, tamely or willingly. Such was the doctrine of our own country, when Spain possessed the whole right bank of the Mississippi and the left up to the Walnut Hills; such is still our claim to the navigation of the St. Lawrence. On the *Columbia* we have recognized the right of navigation to the British from their upper provinces.

This sketch of this most interesting exploration cannot be concluded without expressing a profound conviction of its high value to the world and signal honor to the naval service as well as the government which ordered it.

COMMERCIAL RECORD.

February 15th, 1854.

Owing to the suspension of navigation, by reason of ice, the receipts of produce and merchandize have been very small since the date of our last monthly report; and were it not that we desire to preserve a connected history of the commerce of St. Louis, the business of the month would scarcely be worth recording.

But, notwithstanding our city has been cut off from trade for a season, the commercial facts which have occurred abroad in the mean time are not the less interesting or valuable. The river is now free from ice from Alton south. The first arrivals of boats from below and from Alton were on the 11th instant, and should the weather continue moderate, we may expect the navigation of the rivers above to be fully open by or perhaps before the first of March.

It is not to be supposed that the prices quoted during a period when navigation was closed, and the stocks of some of our leading staples were exhausted, are entitled to the same degree of consideration as at other times; but we have carefully examined the reports of such sales as have been made public, and give the facts as we find them.

Flour.—At the date of our last report we quoted country superfine in lots of from 50 to 100 barrels at from $5.75 to $6.00, and city extra at $6.50 to $7.00 per barrel. The steamer Atlantic which sailed on the 11th January from Liverpool brought intelligence of an advance in the price of breadstuffs which occasioned considerable feeling for a few days, but subsequent accounts being less favorable, flour has become dull of sale, and $6.75 may now be regarded as the limit for best brands. Indeed transactions have been so limited for some days past, that our quotations are submitted as nominal.

At *New Orleans*, on the 12th instant, sales of flour reported at $7.-62½ to $7.75 per barrel.

At *New York*, on the 14th instant, N. Y. State common to favorite is quoted at $8.87½ to $9.06¼; Western common to good $9.06¼ to $9.25; Fancy and extra Ohio and Genesee ranging from $9.18¾ to $11.25 per barrel.

At *Liverpool*, on the 4th instant, Western canal is quoted at 42*s.* to 42*s.* 6d.; Baltimore and Philadelphia extra at 43*s*; 6*d.* per barrel.

Wheat.—On the 15th ultimo, we quoted good red at $1.15 to $1.-18, and prime at $1.20, sacks returned. The intelligence brought by the steamer Atlantic, created some excitement in the market, and we heard of a sale of 15,000 on the 28th at $1.45 per bushel, the purchaser furnishing sacks; the lot to be delivered on the opening of navigation in the Osage river. We also heard that $1.50 per bushel had been offered and refused for a choice lot of white wheat. Later accounts from Europe have depressed the market, and prices may now be quoted at $1.20 to $1.40, and dull.

At *New Orleans*, on the 12th instant, sales of prime wheat reported at $1.80 per bushel.

At *New York*, on the 14th instant, white Gennessee is quoted at $2.12 to $2.28; Ohio do. $2.00 to $2.10; and Michigan do. at $2.25 to $2.35.

At *Liverpool*, on the 4th instant, United States white is quoted at 12*s.* 9*d.* to 13*s.*; secondary qualities 12*s.* 6*d.* to 12*s.* 8*d.*

Corn.—The price of this article has fluctuated under the same influences which have affected flour and wheat. We quote sales at 50 to 55 cents, sacks included. There is but little on the market. We hear of several large contracts for corn in the interior at rates which we judge to be about equal to our quotations.

At *New Orleans*, on the 12th instant, sales of corn reported at 85 to 88 cents per bushel.

At *New York*, on the 14th instant, sales of corn are reported at $1.00 to $1.06 per bushel as in quality.

At *Liverpool*, on the 4th instant, Indian corn, white, is quoted at 50*s.* to 51*s.*; yellow 49*s.* to 50*s.* per quarter.

By comparing prices at New York and Liverpool it will be perceived that there is but little prospect of profit to the shippers of breadstuffs at present rates in those markets. The high prices in New York are attributable, in a good degree, to the active competition between the home and foreign demand. The active foreign demand which commenced soon after harvest, continuing up to the present time, has so far reduced the stocks which had reached tide water before the close of navigation, that a material falling off in the amount of exports has occurred, while the prices abroad were not only high but steadily advancing. The following statement from the "New York Mercantile Journal" shows the decline in the exports of flour and wheat at that port from the middle of December to the 7th instant.

	Barrels Flour.	Bushels Wheat.
In the fortnight ending Dec. 27th	279,027	603,731
" " January 10th	230,023	393,104
" " " 24th	200,802	236,831
" " February 7th	169,234	175,976
Total	879,086	1,409,642

That prices of breadstuffs will rule high until the coming in of harvest, we think, there is no cause to doubt; but it is fair to conclude that a decline will be experienced, at least to some extent, upon the opening of the navigation.

Tobacco and Hemp.—The stocks of these staples are exhausted in this market. The last sales reported of hemp, undressed, was $1.35 per ton.

No sales of tobacco in this market have been reported for some time past. The following extracts from the circular of T. & H. Messenger, N. Y., for the Steamer Atlantic, on the 4th instant, will be found interesting to western growers and dealers.

New York, Feb. 4th, 1854.

At the opening of the month the market retained the same quiet attitude as noticed in our last circular, and transactions continued quite limited until the close, when about 400 hhds. of Lugs and Inferior Leaf were taken for the north of Europe, which circumstance, together with the favorable telegraphic reports from New-Orleans, has strengthened the position of holders who are now firm. Sales to the trade have been made to a moderate extent at our quoted prices, which remain unchanged. With a gradually reducing stock and continued light receipts we look forward to the maintainance of a healthy market, which may improve as the season advances. The stock consists principally of medium leaf. The quantity of prime selections is light, and Lugs and Inferior Leaf are nearly exhausted. The sales are 1,050 hhds. Kentucky including 100 hhds. damaged, sold by auction.

QUOTATIONS.

	1853.
Factory Lugs	5¾ @ 6
Inferior Kentucky	6¼ @ 6½
Middling to Fair	7 @ 7½
Good, including heavy shipping	8 @ 9
Selections	10 nom.
Maysville, Inferior Leaf to Good Wrapper	6½@11

RECEIPTS AND DELIVERIES.

	Ky.	*Va. & N. C.*	*Ohio.*	*Total hhds.*
Stock on hand, 1st Jan. 1854	7,377	178	2	7,557
Received since	210	23		233
	7,587	201	2	7,790
Delivered since	765	2		767
Stock on hand, February 1, 1854.	6,822	199	2	7,023

EXPORTS.

		Leaf Tobacco.		*Manufactured Tobacco.*		
	hhds.	case.	bales.	c'ns.	lbs,	pcgs.
To London		23			31,400	40
Glasgow					14,880	
Bremen	9	537	395		2,244	
Antwerp	67	58		99		
Havre	5					
Mediterranean	493		151			
Africa	23					50
Brit. N. America	5				349	
Mexico					3,100	
West Indies	44		357		37,913	
South America			22		7,008	
China						10
Australia						21
Total	646	618	925	99	86,894	121

MANUFACTURED TOBACCO.

The demand continues very moderate, and the market rather languid, with light sales compared with those of January last year. Prices remain unchanged notwithstanding a further advance in Virginia Leaf.

We beg to say a word in reply to Messrs. M. Langhorn & Sons, of Lynchburg, Va., who in their Circular, take issue with us on the ground of our rendered stocks not affording reliable data for determining the true amount on hand. They argue that the present weight of packages does not correspond with that of former years, and hence that the quantity is in reality much less than stated by us. We have simply to say, that in conferring with the factors in this city, we find it to be the prevailing opinion that the stocks, as stated in our report, will average favorably with those of the past eight or ten years, each package being equal to a ¾ box; and that cases containing eight eighth boxes are always classed as a package. Touching the discrepancy in the sales for 1853, and the stocks on hand at the close of the year, we distinctly set forth that it arose from speculative transactions and consequent resales; and we do think it requires but little sagacity to arrive at correct conclusions in the premises. We may further add that the highly responsible sources from which our information is derived in this branch of the Tobacco interest, may be deemed a sufficient guarantee for its accuracy.

	1853.	
Best brands of 5's and 8's	18 @	22
Medium do.	15	16
Common do.	11	13
Do. 16's	8	10
Good and Medium 16's	12½	14
Twist in Kegs, Medium to No. 1	18	22
Do. Common	15	
Pounds, extra fine	30	40
Do. No. 1	20	25
Do. Medium	12	16
Do. Common	10	12
32's	19	23
Ladies' Twist	18	24

Sales for January, 1854	6,471	Packages.
Do. 1853	13,728	"
Stocks for January, 1854	68,969	"
Do. 1853	31,960	"

SEED LEAF AND FLORIDA.

The transactions in Seed Leaf have been rather extensive, particularly for New Crop Connecticut, which has been purchased freely for export. For fair to prime Wrapper Leaf, from 10 to 12 c. have been paid. Prime Old Crop Ohio has met with a better in-

quiry, while Inferior descriptions are but little sought after. Of Florida, upwards of 300 cases have been taken on the spot, at prices rather in advance of those of last season. The quality is much better than that of the former crop.

NEW ORLEANS MARKET.

The demand for Tobacco has been active, resulting in large sales without however effecting any marked change in prices. The stock on sale is now reduced to about 5,000 hhds. which are held with increased firmness at the quoted prices. The receipts continue very trifling.

QUOTATIONS—1853.

Lugs, Factory	5¼	@	5½
Do. Planters'	5½		6
Leaf, Inferior to Common	6		6¼
Do. Fair	6½		6¾
Do. Fine	7		7½
Do. Selections	8		9

ARRIVALS.

Arrivals from Sep. 1, 1853, to Jan. 28, '54				7,192	hhds.
Do.	Do.	1852	Do. '53	21,878	"

EXPORTS.

Exports	Do.	1853	Do. '54	10,943	"
Do.	Do.	1852	Do. '53	14,440	"

STOCKS.

Stocks	Do.	1853	Do. '54	25,415	"
Do.	Do.	1852	Do. '53	25,260	"

RICHMOND.

The supplies of Old Leaf are very meagre, while the New Crop, compared with this period last year, comes in market but sparingly, and that principally in loose parcels, consequently, prices have improved fully ½c. during the month with an upward tendency, notwithstanding the curtailment by manufacturers, which is stated to be fully equal to one-quarter at this point. A few invoices have been taken for France, but prices are not divulged.

QUOTATIONS.

New Lugs	4¼	@ 6	Old Lugs	5½	@ 7
Do. Leaf	6½	11	Do. Leaf	7½	13½
			Stems	2	2½

BALTIMORE, MD.

There is little or no stock offering at the moment, consequently but few transactions are passing. In the absence of business we retain last month's quotations.

Maryland, Good to Fine Crop	7	@	9
" Medium crop	6½		7

"	Common do.	5½ 6
"	Seconds	5½ 7
"	Ground Leaves	5¾ 7
Ohio,	Good to Fine Yellow	10 16
"	do. do. Spangles.	9 12
"	do. Red	7 8
"	Common to Medium Colory	5½ 7
"	Good Fine Reds	6½ 7½
"	Medium do	5¾ 6¼
"	Good Common do	5½
"	Inferior and Green	5¼ 5½
"	Scraps	4¼ 4¾

Inspection from Jan. 1, 1854 *against same time* 1853.

Maryland	97 hhds.	105 hhds.
Ohio	8 "	81 "
Virginia, Kentucky, Pennsylvania		1 "
	105 hhds.	227 hhds.

EXPORTS.

	1854.	1853.
To Bremen	671 hhds.	1,135 hhds.
England	278 "	
Hamburg		271 "
Africa	4 "	
West Indies	5 "	3 "
Other Ports	622 "	
Total	1,580 hhds.	1,409 hhds.
Stocks on hand 1st January, 1854		10,635 "
Inspected since		105 "
		10,740 "
Export		1,580 "
Stock 1st February, 1854		9,160 hhds.

Hogs and Pork.—The price of hogs for packing has been very uniform throughout the season, but up to the present time the views of dealers in pork seem to be unsettled, and the prices fluctuating. The number of hogs slaughtered at St. Louis and on the opposite side of the river, up to the 1st instant, is reported at 80,600 head.

Freight and Navigation. — After a suspension of navigation between St. Louis and New Orleans for forty-two days, the ice gave away on the 11th instant, and on that day several boats

which had been delayed in the river below arrived in port. There was also an arrival from Alton on the same day, but the Illinois, upper Mississippi, and Missouri rivers, are all still closed by ice. Freights to New Orleans have opened at the following rates: Pork $1.00; Flour 75 cents; Whiskey $1.25, per barrel. Corn and Wheat 20 cents per bushel. Cattle $10; Horses $10; Mules $8, and Hogs $1.25 per head.

Coastwise and Foreign Freights. — From *New Orleans to New York*, on 10th instant, Pork was quoted at $1.40 per barrel. From *New York to Liverpool:* Flour 3*s.* 6*d.* per barrel; Grain in bulk 13*d.* to 14*d.* per bushel. From *New York to Havre:* Flour 95 cents per barrel, and grain 24 cents per bushel.

Money and Exchange.—The suspension of business has occasioned a temporary stringency in the money market which will be relaxed, as we believe, in a good degree, as soon as the spring trade is fairly opened. We quote Sight Exchange on New York at ½ p. c. prem., and at par on N. Orleans and Cincinnati. At last dates from New York, the amount of Foreign Exchange offering was in excess of the demand. There was but little doing; rates ranging from 108 to 109.

The exports of specie from New York, during the week ending 11th instant, amounted to only $14,100, and the total exports from that port, from the 1st January to the same date, to $2,-017,964.81. Money continues easy on call. Stock operators remain quiet; but we are persuaded that the increase of money which must take place, in the absence of an export demand, will impart a considerable degree of activity to the stock market within the next two months. The following statement of the condition of the New York City Banks in their leading departments at the dates specified, will be found useful to those who desire to study the financial history of the times.

	Loans.	Specie.	Circulation.	Deposits.
Sept., 1849	$51,079,220	$8,022,250	$5,990,100	$28,551,092
Sept., 1850	62,886,522	9,056,135	6,765,010	37,250,380
Sept., 1851	65,426,353	6,032,463	7,376,114	36,957,870
Sept., 1852	88 815,464	8,702,895	8,678,664	50,216,410
Feb. 26, '53	95,274,876	8,991,630	9,274,025	57,556,507
June 11, '53	95,520,656	12,174,509	9,084,106	59,078,171
Aug. 6, '53	97,899,617	9,746,452	9,510,465	60,994,566
Aug. 13, '53	95,562,277	10,654,718	9,451,945	58,166,712
Aug. 20, '53	93,866,807	11,102'551	9,464,766	57,317,658
Aug. 27, '53	92,386,053	11,319,047	9,427,191	57,431,803
Sept. 3, '53	91,741,338	11,268,049	9,554,294	57,502,960
Sept. 10, '53	91,108,347	11,380,694	9,517,366	57,545,164
Sept. 17, '53	90,190,589	11,860,235	9,566,723	57,612,301
Sept. 24, '53	90,092,765	11,340,925	9,477,541	58,312,334
Oct. 1, '53	90,149,540	11,231,912	9,521,665	57,968,661
Oct. 8, '53	89,128,998	10,266,602	9,673,458	57,985,760

	Loans.	Specie.	Circulation.	Deposits.
Oct. 15, '53	87,837,273	11,330,172	9,464,714	59,068,674
Oct. 22, '53	85,371,981	10,303,254	9,388,543	55,748,729
Oct. 29, '53	83,400,323	10,866,672	9,300,350	53,335,462
Nov. 5, '53	83,092,630	11,771,880	9,492,158	55,500,977
Nov. 12, '53	82,882,409	12,823,575	9,287,629	56,201,007
Nov. 19, '53	83,717,622	13,691,324	9,151,443	57,446,484
Nov. 26, '53	84,802,530	13,343,196	9,932,769	58,673,076
Dec. 3, '53	85,824,756	12,830,772	9,133,586	58,435,207
Dec. 10, '53	86,708,028	12,493,760	9,075,704	57,838,076
Dec. 17, '53	87,865,073	12,166,020	8,939,830	58,312,478
Dec. 24, '53	88,766,402	12,074,499	8,872,764	58,154,302
Dec. 31, '53	90,115,549	10,988,171	8,921,858	58,858,127
Jan. 7, '54	90,133,887	11,506,124	9,075,926	60,835,362
Jan. 14, '54	90,010,012	11,794,450	8,668,344	58,396,956
Jan. 21, '54	90,068,738	11,455,156	8,605,235	59,071,252
Jan. 28, '54	89,759,465	11,117,958	8,642,677	58,239,577
Feb. 4, '54	90,549,577	11,634,653	8,996,657	61,208,466
Feb. 11, '54	91,434,022	11,872,126	8,991,083	61,024,817

The amount of United States Stocks redeemed at the Treasury during the week ending 11th instant, was small: amounting to only $39,900. The receipts at the Custom House and United States Assistant Treasurer's office in New York continue to increase: the amount received during the week ending the 11th instant being nearly $300,000 more than that of the preceding week. The receipts at the Custom House during the week amounted to $923,439.25.

The elements of an extensive and active commerce have never been more abundant in the Western States than at the present time, nor the condition and prospects of producers more cheering.

The following is a statement of leading articles of produce &c., received at St. Louis from the 16th of January to the 15th of February inclusive.

Wheat, sacks	1,776	Coffee, sacks	4,983
Flour, barrels	330	Molasses, barrels	402
Corn, sacks	676	Whiskey, "	331
Oats, do.	2,685	Hides,	143
Lard, tierces	388	Nails, kegs	4,271
Hemp, bales	2	Salt, sacks	9,697
Tobacco, boxes	33	Rice, tierces	12
Sugar, hhds.	1,559	Bulk Meat, tierces	20
Do. barrels	256		

Prices Current of Leading Articles at St. Louis on the 1st and 15th days of February, 1854.

	FEBRUARY 1ST.	FEBRUARY 15TH.
Barley, bushel,	no sales, nominal 62 to 65 cents, sacks returned.	Quoted 60 to 65 cents, sacks returned.
Coffee, lb.	12 to 12½	Last sales 11½ to 12
Corn, bushel, sales	50 to 52	50 to 55
Flour, superfine and extra	$6 to 7	Dull, nominal $6.50 to 6.75
Gunnies, new, 2¼ bushels, held at	15½	Sales 17
Hemp, tons, last sales reported	$135	None on the market.
Hides, dry, per lb.,	no sales.	Quoted 12 to 12½
Hogs,	$4.25 to 4.50	Packers and butchers $4.40 to 4.75
Lard, No. 1, in bbls., last sales,	9½	Last sales 8¾
Do. in kegs, do.	6½	No sales reported.
Lead, lb., sales	6.35	Sales, $6.50
Molasses, gal.,	24 to 25	Sales at 23 to 23½
Oats, bushel, sales,	40	Sacks included 42 to 45
Pork, Mess, bbl., last sale,	$12.50	Last sales reported $13.00
Salt, G A., sacks,	no sales.	From Levee $2.00
Do. T. I., do.	$1.50	Quoted $1.50
Do. Kenhawa, bushel,	no sales.	Quoted 50
Sugar, lb.,	no sales, quoted 4 to 4½	Sales yesterday 4 to 4⅛
Tobacco,	no sales.	None on the market.
Wheat, bushel, quoted	$1.20 to 1.45	Exclusive of sacks $1.30 to 1.40
Whiskey, gal., last sale,	23	22¼

COMMERCE OF ST. LOUIS.

Imports into St. Louis by the river for five years commencing January 1st, 1849, and ending December 31st, 1853.

Articles.	1853	1852	1851	1850	1849
Apples, green, barrels	8,905	9,211	13,091	20,291	20,533
" dried, barrels and sacks	16,551	9,218	20,612½	14,766	.....
Axes, boxes	671	1,415	692	1,875	.....
Bacon, casks	16,12[illegible]	16,727½	76,183½	27,106	16,880
" boxes	2,014	979	962	6,195	3,245
" bulk, pounds	899,179	889,403	310,495	558,703	.....
Bagging, pieces	2,679	3,367	2,765	1,262	1,079
Barley, bushels	110,97[illegible]	141,774	149,859	72,591	92,463
Beans, barrels	1,65[illegible]	1,420	1,862	1,378	1,516
" sacks	5,10[illegible]	15,296	8,156	3,017	2,265
Beef, barrels	8,09[illegible]	8,9[illegible]	19,119	11,423	12,336
" half do	16[illegible]	619	1,854	775	.....
" tierces	.....	.....	.....	.....	10,687
Beeswax, sacks	242	387½	650½	.....	
" barrels	132	.....	.....	.....	.....
" boxes	173	.....	.....	.....	.....
Boots, boxes	11,380	27,671	19,735	27,160	.....
" trunks	300	265	680	2,800	.....
Brandy, barrels	2,393½	3,035	2,855	5,723	11,023
Buffalo Robes	10,737	59,441	95,844	67,654	2,324
Butter, barrels	2,306½	2,135	2,181	1,926	7,811
" kegs	3,617	3,648	4,545½	5,349	.....
" firkins	2,482	3,013	3,636	3,234	.....

Imports into St. Louis by the river for five years commencing on the 1st of January, 1849, and ending December 31st, 1853.

[*Continued.*]

Articles.	1853	1852	1851	1850	1849
Candles, sperm, boxes	1639	423	139	496	.....
" tallow, do.	1349	853	2092	2806	.....
Cattle	2792	1892	1819	1376	.....
Cheese, boxes	18486	27286	31340	26385	19464
" casks	299	70	422	.....	.....
Cider, barrels	317	216½	540½	801	2638
Cigars, foreign, boxes	824	353	1098	2605	.....
" domestic, do.	233	1241	938	1633	.....
Coffee, sacks	80908	105888	103123	73281	67353
Corn, bushels	765239	647154	1834689	1016077	205338
Dry Goods, boxes	99868	126925	108583	94162	.....
" packages	721171	586348	480589	362936	..... —
" bales	28817	31162	41224	26298	.....
Fish, kegs	873	1092	1810	1198	.....
" boxes	2255	2670	4783	5843	.....
" barrels	2617	5883	6864	6758	.....
" half barrels	1484	2394	2105	2192	.....
Feathers, sacks	1214	1213	1143	1593	1156
Flax Seed, barrels	9781	6703	4400½	2348	9802
Flour, barrels	193251	136599	194857	326072	306412
" half do.	1612	6572	6324	7321	.....
Furs, packages	1487	1793	3051	2180	1524
Gin, barrels	437	504	939	796	.....
Ginseng, sacks and barrels	327	270	42	877	374
Hay, bales	19769	15689	23280	25271	tons 902
Hemp, bales	63209	53331	64607	62798	46290
Hemp Seed, barrels	493	400	355	750	.....
Hides	92924	107858	99302	86875	68902
Hogs	15611	22822	17885	12226	.....
Horses	114	1375	833	2098	.....
Iron Bars, tons	21486	1005	9387¼	14322	28562
" pigs	8022	9820	6683½	4468	5143
" casting	1656	8737¼	1214	2485	.....
Lard, barrels	32490	46020½	66616½	100001	58279
" kegs	12747	10119	16227	17133	18845
Lead, pigs	509184	416985	521734	601787	590293
" bars, lbs.	21000	1664	38250	113150	.....
" white, kegs	747	306	797	8975	.....
" red, do.	47	.....	91	.....	.....
Leather,	11120	10204	.....	.....	.....
Malt Liquors, barrels	8837	11324½	8200½	7725	13480
Molasses, barrels	53291	60268	40530½	32463	29214
Mules	212	475	.....	.....	.....
Nails, kegs	64051	60435	63736	88813	76567
Oakum, bales	676	457	1506	2612	2594
Oats, bushels	555391	606397	776041	712617	252291
Onions, sacks and barrels	26523	19471	21897	14629	8540
Oils, Sperm, barrels	305	556	1677	2038	.....
" Castor, do.	135	226	459	1678	875
" Linseed, do.	1132	1858	1201½	2587	1936
" Train, do.	706	245	384	348	.....
" Lard, do.	353	139	212	.....	.....
Paper, wrapping, reams	27229	68319	47914	50506	.....
" writing do.	14126	6341	6579	10990	.....
Peaches, green, barrels	689	372½	1207	743	.....
" dried, do	860	851	1187	2260	.....

Imports into St. Louis by the river for 5 years commencing January 1, 1849, and ending December 31, 1853.

[*Continued.*]

Articles.	1853	1852	1851	1850	1849
Peaches, dried, sacks	9136	4126	4273	5831	.....
Peltries, packages	927	1061	1066	1362	2641
Pork, barrels	89079	75483	114899	135662	113862
" half barrels	1655	1693	3052	7321	.....
" in bulk	8172164	9015969	11873645	11474041	9651656
Potatoes, barrels and sacks	88040	57378	58650	13401	41222
Powder, kegs	8244	13019	14887	18505	.....
Queensware, casks	1986	1652	2720	3197	.....
" crates	1275	2039	2453	2508	.....
Rice, tierces	2879	2848	2579½	3389	1965
" barrels	154½	.....	.....	.....	.....
Rope, hemp. coils	46732	42567	33935	23442	19065
" Manilla,	832	1500	1643	5849	.....
" Tarred, coils	721	299	.....	.....	.....
Rum, barrels	451	88	198	706	.....
Rye, bushels	22097	5571	7656	3168	5844
Salt, domestic, fine, barrels	4072	58	444	805	23553
" " coarse, do.	48301	44980	37200	24219	
" Liverpool B., sacks	65174	19841	17302	23252	.....
" G. A., do	96498	198136	119867	159699	291709
" T. I., do.	9766	83176	46694	98038	
Sheep	2074	4123	6001	2924	.....
Shoes, boxes	6281	12364	12057	17022	.....
" trunks	298	256	509	2618	.....
Skins,	5621	4997	5152	6718	.....
Soap, boxes	6199	917	2521	.....	.....
Starch, boxes	3235	2789	.....	.....	.....
Sugar, hogsheads	46491	39447	29722	24159	26501
" barrels	15005	14937½	22270	12273	.....
" boxes	7916	18442	16098	13926	7348
" sacks	.....	.....	.....	.....	.....
Tallow, casks	374	448	376	439	973
" barrels	835	3136½	1175½	809	631
Tar, barrels	8540	13395	10000	1126	2539
" kegs	1985	3283	5800	5219	4103
Tin Plate, boxes	10779	7663	6677	9993	.....
Tea, chests	1110	974	1058	2873	3281
" half chests	1003	1241	2694	5906	.....
Tobacco, hhds	8988	13708	10286	9272	9879
" boxes, manufactured	8221	16121½	10235	10309	5904
Vinegar, barrels	153	325	755	1134	1423
Wheat, bushels	1318455	1624186	1644861	1863750	1792535
Whiskey, barrels	44893	50887	48541½	38813	29085
Wine, barrels	2989	3877	5264½	8972	.....
Wool, sacks	1551	1312	1684	1509	1274

Comparative prices of HEMP for the years*

	1852.	1853.		1852.	1853.
Jan....	$75 to $92	$90 to $108	July...	$72 to $82	$95 to $120
Feb....	75 90	100 116	Aug...	68 87	100 119
March.	60 85	95 112	Sept..	83 91	105 122
April..	60 75	85 103	Oct...	88 100	110 127
May...	62 78	92 112	Nov...	92 100	115 130
June...	72 82	80 105	Dec...	88 107	119 130

Monthly prices of TOBACCO for 1853.

	Lugs.	Seconds.	Fair to fine shipping.	Manufacturing
Jan...	$3 to $4	$4 to $4 50	$4 75 to $5 50	$8 to $10 00
Feb...	3 60 to 3 95	none.	none.	none.
March	3 50 to 4	4 25 to 4 80	none.	5 55 to 6 00
April..	3 50 to 4 75	4 60 to 5 50	5 75 to 6 50	6 00 to 10 00
May...	4 25 to 5 15	5 to 5 60	5 75 to 7 00	6 00 to 11 50
June..	3 75 to 4 75	4 80 to 5 25	5 50 to 6 75	6 00 to 13 00
July..	4 50 to 5 60	5 00 to 6 00	6 00 to 8 50	6 50 to 16 00
August	4 75 to 5 60	5 50 to 6 50	6 25 to 8 25	7 00 to 15 00
Sept...	4 75 to 5 65	5 50 to 6 50	6 50 to 8 00	none.
Oct....	5 00 to 5 75	5 75 to 6 75	7 00 to 8 50	none.
Nov ...	4 65 to 5 50	none.	none.	none.

Monthly prices of FLOUR for 1853.

	City superfine.	Country superfine.	City extra.	Country extra.
Jan....	$4 62½ to $4 80	5 35 to 4 75	5 00 to	4 75 to 5 00
Feb....	4 10 to 4 37½	4 00 to 4 25		4 75 to 5 00
March.	3 80 to 4 00	3 55 to 4 00	4 75	4 20 to 4 75
April..	3 80 to 4 00	3 75 to 3 90	4 75 to 5 00	4 25 to 4 50
May...	3 85 to 4 25	3 75 to 4 15	4 75 to 5 00	4 37½ to 4 75
June..	3 90 to 4 12½	3 75 to 4 10	4 50 to 5 25	4 25 to 4 50
July...	4 25 to 5 00	4 00 to 4 70	4 75 to 5 25	4 50 to 5 00
August	4 50 to 5 25	4 25 to 5 00	5 50 to 5 75	4 50 to 5 12½
Sept...		4 15 to 4 75		4 75 to 5 25
Oct....	5 50 to 6 60	5 00 to 5 80	6 00 to 6 50	5 50 to 6 12½
Nov ...	5 75 to 6 00	5 50 to 5 75	6 25 to 6 50	5 75 to 6 00
Dec....	5 50 to 6 00	5 25 to 6 00	6 00 to 6 50	5 75 to 6 25

Monthly prices of WHEAT for the years

	1852.	1853.		1852.	1853.
January c.	70 to 85	85 to 1.00	July	65 to 70	60 to 1.05
February	62 85	65 90	August	62 79	65 94
March	65 80	64 95	September	69 75	63 1.00
April	55 80	60 90	October	70 75	75 1.25
May	70 81	60 1.05	November	65 75	75 1.20
June	75 82	55 1.05	December	85 1.00	85 1.25

* The prices for 1853 are taken from the annual review published by the Editors ef the Mo. Republican.

Monthly prices of CORN for the years

	1852.	1853.		1852.	1853.
January.....	38–41	35–45	July.....	35–48	36 –58
February.....	30–42	32–39	August.....	40–45	39 –61
March.....	32–37	31–37	September ...	40–45	39 –50
April.....	33–36	30–42	October.....	40–55	38 –54
May.....	40–43	35–44	November....	43–50	37½–46
June.....	35–44	37–48	December.....	51–43	34 –44

Monthly prices of WHISKEY for the years

	1852.	1853.		1852.	1853.
January.....	16—18	19—19¾	July.....	16½–17½	22—24
February.....	15¾–16	18—19	August.....	17—20	22—24
March.....	15¼–16½	17½–19	September....	18½–19	22—22½
April.....	15½–15¾	17¾–18	October	16—18½	22½–26
May.....	15½–17	18½–19	November	18¼–20	20½–23½
June.....	16—17¾	19—22	December.....	19¾	20—22½

Monthly prices of MESS PORK for the year 1853.

Jan ....p. bbl.	$12.50—$16.50	July ...	$13.75—$14.50
Feb.....	15.00 —	August	14.00— 14.50
March..	13.87½– 15.00	Sept....	13.00— 14.00
April...	13.00— 15.00	October	13.00— 14.50
May....	14.50— 14.87½	Nov.....	12.00— 13.00
June....	13.50— 14.50	Dec.....	11.00— 12.00

Monthly prices of LARD for the year 1853.

	No. 1 in barrels for 100 lbs.		No. 1 in bbls. for 100 lbs.
January	$9.36½–$10.25	July	$9.00—$9,25
February.....	8.75— 9.12½	August.....	10.00—10.75
March.....	8.37½– 8.75	September.....	9.75—10.00
April	8.30— 8.75	October	10.00—10.50
May	9.00— 9.20	November.....	8.00— 9.50
June.....	9.00— 9.25	December	8.00— 8.25

Monthly Arrivals of Steamboats at St. Louis for the years 1852 *and* 1853.

	Number.	Tonnage.		No.	Tonnage.
January.....	71	24,805	"	55	16,430
February.....	178	37,965	"	194	42,085
March.....	346	75.006	"	249	60,706
April.....	393	116,781	"	316	76,981
May.....	360	96,265	"	399	99,979
June.....	272	79,702	"	288	75,231
July.....	276	78,482	"	287	72,885
August.....	266	60,910	"	213	47,414
September.....	253	66,468	"	305	55,206
October.....	251	63,406	"	367	71,958
November.....	322	72,236	"	291	62,558
December	209	65,064	"	223	53,814
	3,197	837.090*		3,187	735,244

* The tonnage of barges included in 1852.

DEPARTMENT OF INTERNAL IMPROVEMENT.

ST. LOUIS AND IRON MOUNTAN RAILROAD.

It affords us a high degree of satisfaction to learn that contracts have been entered into for the construction of the entire line of this work, the whole to be completed by the first day of December, 1856. We have ever regarded a railroad from St. Louis to the Iron Mountain as the beginning point in the Missouri system of public improvement. Nor were we alone in this opinion: but, we discovered at an early period in the history of our railroad movements that, owing to a variety of causes, this work could not be brought forward as the basis of the system; but would be compelled to wait until it could be embraced as a part of a more comprehensive scheme. But besides the causes of delay alluded to, the operations of the company since its organization have been retarded by a variety of vexatious obstacles which have occasioned the loss of much time. But after so much delay and the removal of all impediments, individuals desiring the early completion of the work, will doubtless imagine that it ought to have been accomplished in a shorter time than that stipulated by the contract. And hence it is due to the public as well as to the Directory, to remark that the route passes over a rugged country requiring the performance of a great deal of work which cannot be hastened beyond a certain degree without greatly increasing its cost. No matter how much a public work may be needed, it can never be good policy to undertake its accomplishment within a period so short as to make no allowance for contingencies. Considering the nature and objects of the work, we are persuaded that the company have acted wisely in allowing sufficient time for its completion. This road is destined to be the connecting link between the southern and northern systems of public improvement; and when done, it should be well done.

We are informed that the company have had surveys made to the southern boundary of the State, and that quite a practicable route has been found in a direction highly favorable to a connection with the Cairo and Fulton road on the one hand, and with Cairo, New Madrid and other points on the Mississippi on the other hand, without deviating materially from the direction of the main stem to Helena. We have felt great interest in the public

demonstrations recently made by the people of the south-eastern counties in respect to public improvements, and have good reason to hope that they will now go to work in earnest, and build a road from some one or more points on the Mississippi to the Iron Mountain, by the time the line from St. Louis to that point shall have been completed; thus completing the connection between St. Louis and all the Southern States east of the river. We trust our friends of the St. Louis and Iron Mountain company will keep this connection constantly in view, and bring all their intelligence and influence to bear upon its accomplishment.

We are indebted to the kindness of L. M. Kennett, Esq., President of the St. Louis and Iron Mountain Railroad Company, for the following facts respecting the contract.

In October last a portion of this road embracing about twenty-miles from St. Louis south, with the exception of Meramec bridge and some five miles immediately below, was let to Messrs. Holmes, Shannahan and Green, and they have been engaged for several months in the graduation of the lower section let to them, being partly along the Mississippi river Bluff, and partly earth-work after the road leaves the river at Dunklin's. The work at the Meramec bridge was about the same time let to Mssrs. Conran & Bennett.

On the 28th instant, a contract was closed with Messrs. Wm. M. Watts, Charles N. Watts, and W. Milnor Roberts, Esq., of Pa., for the graduation and masonry of the rest of the line, from St. Louis to the Pilot Knob, a distance of nearly 87 miles, the rails, chains and spikes to be furnished by the company, and the road to be finished and ready for operation as far as the crossing of Big River, about 45 miles below the city, by the 1st of July, 1856, and through to the Iron Mountain and Pilot Knob by the 1st of December, 1856. The contractors receive in payment the State, city and county securities held by the company, and from their known energy and experience in railroad building, the price to be paid by the company being liberal, there is every probability that the road will be finished within the time specified, particularly as a bonus in the stock of the company is to be given them in addition to the agreed price, if the work is faithfully completed and in operation by the time stipulated in the contract.

MISSISSIPPI AND ATLANTIC RAILROAD.

The Legislature of Illinois at called session which convened on the 9th instant, has granted to this company the powers necessary to enable it to proceed with the construction of the road; and we are authorized to expect that the work will be pressed forward to its completion with an unusual degree of energy and despatch. There is no work of public improvement east of the Mississippi in which we have felt a deeper interest than in a railroad from Illinoistown to Terre Haute; but respect for the policy of a neighboring State, and a belief that our advocacy of the measure could be of no service to the friends of the enterprise, have heretofore prevented us from discussing its merits as fully as we desired.

All things considered, it is perhaps better for the State of Illinois, and other States east of the Mississippi, that the privilege of constructing this road was withheld until the building of the Alton and Terre Haute railroad had progressed sufficiently far to insure its completion. We believe both roads will pay; but had the Mississippi and Atlantic road been commenced first, it is hardly probable that the other would have been built, at least for many years to come. By a judicious connection with the Wabash Valley railroad, the Alton and Terre Haute road must become a work of first rate importance, or nearly so, both to Alton and St. Louis.

Favoring, as we ever have, the central route to the Pacific, provided it be found practicable, we regard the act of the Illinois Legislature authorizing the construction of the Mississippi and Atlantic railroad, at the present time, as decidedly fortunate; for it will afford the friends of the central route to the Pacific a powerful argument which we trust they will not overlook.

The well-timed action of the Illinois Legislature in opening this important link in the great national line of travel from the Northeastern States to the Pacific ocean evinces a degree of wisdom and patriotism which entitles that body to the respect and most cordial sympathy of all who feel an interest in the central route to the Pacific.

The following is a copy of the act.

[From the St. Louis Intelligencer.]

Sec. 1. *Be it enacted by the people of the State of Illinois, represented in the General Assembly*, That the Mississippi and Atlantic Railroad Company, as formed under the articles of Association, filed in the office of Secretary of State, is hereby declared to be a valid and subsisting corporation, by that name, duly

organized under, and duly vested with all and singular the rights, privileges, and powers, contained in an act, entitled "An act to provide for a general system of Railroad Incorporations," approved November 5, 1849—and said company is hereby authorized to commence, construct and maintain the said Mississippi and Atlantic Railroad, from a point on the eastern line of the State of Illinois, in the direction of Terre Haute, Indiana, to a point on the Mississippi river, at or near Illinoistown, as in their articles of association specified, in accordance with the provisions of the act hereinbefore recited, the acts amendatory thereof and of this act; and the acts and proceedings of said company, hitherto in and about the presentation and construction of said road, its crossings, connections and running arrangements with other roads within the State.

SEC. 2. The said Mississippi and Atlantic Railroad is hereby declared to be a work of sufficient public utility to justify the taking of private property for constructing and maintaining said road, and the same may be appropriated, whenever requisite, under the provisions of the acts now in force for that purpose.

SEC. 3. Said company shall have power to borrow money for the construction, equipment and maintainance of said road, and to issue its bonds therefor at such rate of interest as its directors may prescribe, not exceeding seven per centum per annum; and for security thereof to mortgage its roads, property and franchises; and any sale of said bonds at less than par, shall be valid and binding upon said company as if the same had been sold for the par value thereof.

SEC. 4. Said Company shall have power to take and hold stock in, or loan its credit to any railroad company within this State whose road may connect directly, or by connecting lines, with said Mississippi and Atlantic railroad.

SEC. 5. Said Company is hereby empowered to construct so much of the line of road as lies between the Eastern line of this State and Terre Haute, under such provisions as may be made by the laws of the State of Indiana, or to form a connection with any company that may be organized for that purpose, to consolidate the stocks of said companies, or to lease, manage or control the said connecting line of roads, on such terms as may be agreed upon between the parties.

SEC. 6. This act shall take effect and be in force from and after its passage.

OHIO AND MISSISSIPPI RAILROAD.

This Road was opened on the 7th instant from Illinoistown to Lebanon, a distance of twenty-four miles. We learn that it is contemplated to open the Eastern division from Cincinnati to Lawrenceburg on the first of March.

WESTON AND ST. LOUIS RAILROAD.

The convention which met at Brunswick, on the 22d inst., adopted Articles of Association—under the General Railroad Law of the State—by which it is proposed to build a railroad from Weston, in Platte county, to a point on the North Missouri Railroad, in Callaway county, passing through the counties of Clay, Ray, Carroll, Chariton, Howard and Boone. The 7th article provides that "said road shall pass through or adjacent to the several county seats along the line of said route, at each of which there shall be a suitable depot, &c."

By the 8th article, it is made "the duty of the Board of Directors to memorialize Congress upon the subject of a grant of a portion of the public lands in aid of said road, and also to memorialize the State Legislature upon the subject of a loan of its credit to said company in aid of the same, &c." A committee was appointed "to memorialize the Directors of the North Missouri railroad on the importance of locating their road as far west as compatable with their charter."

The Weston and St. Louis road when built will constitute an important feature in our system of public improvement, and we are pleased to observe the lively interest which the people along the line have taken in the enterprise; but we are constrained to make a few remarks on the subject of location. By men of experience, it is universally regarded as bad policy to determine by charter or articles of association upon any fixed points between the termini of a railroad. Such provisions embarrass the engineering, and subject the company to the power of land-holders who rarely let an opportunity pass of making as much as they can out of chartered companies. Indeed many seem to think it a virtue to claim and compel the payment of exorbitant damages from corporations notwithstanding the value of their estates may have been doubled by the construction of a road across their land. Again, the friends of this enterprise seem to be careful upon all occasion to speak of a connection with the North Missouri railroad in Callaway county. Now we are persuaded that a location of the North Missouri railroad on a line that would touch Callaway county, would be a blunder in the system of railroads north of the Missouri which would cost millions of dollars to correct.

The Weston and St. Louis railroad is to be classed among the great enterprises of the day; for should the Pacific railroad be located in the valley of the Platte, it will constitute a part of the route from St. Louis to California. But whether this should be the case or not, we regard it to be the true policy of the company to make the location on the nearest and best line from Weston to St. Charles. Such a location would be more profitable to the stockholders, and more useful to the public. The road would cost less, and there would be less difficulty in procuring the means necessary for its construction.

HICKMAN AND OBION RAILROAD.

We find in the "Hickman Argus," of 24th instant, a report of the Engineer of the road by which it appears that the company are pressing this work forward with extraordinary energy. The engineer, W. M. Johnson, says "I feel confident in asserting that by the first of July every section of this line will be opened, and the work will be completed before 1855." The Hickman and Obion railroad, when completed, will form a connection with the Mobile and Ohio road at its point of junction with the Nashville and Northwestern Road: placing the town of Hickman in communication with the southern and south-eastern systems of public improvement, by the construction of a road of only thirteen miles in length. But to secure to Hickman all the advantages of its location, its citizens should look west of the Mississippi. and lose no time in establishing connections with the Missouri and Arkansas improvements. We trust it will not be long before their example will be followed by the people of Southwestern Missouri. The Mobile and Ohio railroad company, the Nashville and Northwestern railroad company, and the owners of the lines from Nashville to Charleston and to Savannah, are all deeply interested in establishing connections with the railroads west of the Mississippi, and we imagine that it would not be difficult to bring their influence and their means, if necessary, to aid in establishing a railroad connection between Hickman and St. Louis.

[*Memphis Appeal.*]

MEMPHIS & CHARLESTON RAILROAD. — Right of Way granted through Mississippi.

A gentleman from Mississippi, who reached this city on the cars yesterday, brings the gratifying intelligence that the Mississippi Legislature had finally and fully granted the right of way to the Memphis and Charleston Railroad. The amendments proposed by the House had been concurred in by the Senate; so that the bill only needs the signature of the Governor, (which will not be withheld) to make it a law. This intelligence, says our informant, was received at Holly Springs, from a reliable source, on Friday last. Thus closes an unpleasant and protracted contest on terms which are believed to be honorable and acceptable to both parties; and we hope that the communication soon to be opened up between Mississippi and Tennessee will not only have the tendency to unite more closely the interests of the two States, but also to blend more cordially the hearts of their people together.

GREAT WESTERN [CANADA] RAILROAD.

The opening of this road was celebrated at Detroit on the 16th ultimo. The ceremonies are represented as having been more brilliant and imposing than any that have been exhibited, on similar occasions, in any part of the country.

The Great Western Railway, as we learn from an article in the *New York Courier & Enquirer*, is 228 miles in length. A distance of 183 miles is either entirely level or exhibits inclinations of less than five feet per mile; and the slopes on the remainder are mostly less than 20 feet per mile. Ninety-five per cent. of the whole distance is perfectly straight, and the curves on the remaining distance are mostly very slight. The road was projected eight years ago. Its cost has been about $8,000,000, about $1,000,000 of which was subscribed in Canada, about $1,000,000 in the United States, and near $1,000,000 by the British Government; the remainder has been raised by the sale of stocks and bonds in Great Britain. The gauge is five feet and a half. The connections and distances between New York and Chicago by this route are as follows:

Hudson River Railroad to Albany.....miles	144
New York Central Road to Niagara.....	305½
Great Western Railroad to Detroit.....	228
Michigan Central Railroad to Chicago.....	283
Total miles.....	960½

Being 4¾ miles longer than the route by Erie and Cleveland.

CHICAGO AND ROCK ISLAND RAILROAD.

This road was opened through to Rock Island on the 22d inst. A large number of people, about 10,000, were present at the ceremonies, which are represented as having been remarkably imposing and highly pleasing to all present.

We see it stated that the tariff of charges on first class freight from Rock Island to Chicago has been fixed at 35 cents, and on 2d class at 30 cents per 100 lbs.

JOURNAL OF MANUFACTURES.

MANUFACTURE OF MISSOURI IRON.

The State of Missouri is destined to be the "Iron State," and its iron a strong bond of the Union, although in its infancy it caused an alarm of disunion.

In the last number of the *Journal* we published the statistics of the quantity of iron, derived from the region of the Iron Mountain, and shipped from Ste. Genevieve, during the six months preceding the 1st of December last, showing the amount to be 2,436 tuns of pig metal, and 15,185 blooms weighing 2,005,780 lbs.

Desiring to obtain further information relative to the iron business in the region of the Iron Mountain, we applied to Mr. H. T. BAILEY, an iron master of St. Francois county, intimately acquainted with this business in the Iron Mountain region, who has kindly furnished us with additional items.

The Pilot Knob, Shepherd Mountain and Iron Mountain are the principal deposites of iron now being worked. The Iron Mountain ore, is, for the manufacture of iron alone, one of the best in the United States, if there is another as good, for making wrought iron direct from the ore.

The Messrs. Prewitt & Patterson, at Vallé Forge, situated 25 miles from Ste. Genevieve, on the Plank-road leading to the Iron Mountain, have a forge now in operation, working six of the Catalan fires, making iron direct from the ore, and turning out from 20 to 24 tons of blooms per week; also four fires working from the pig made from the Iron Mountain ore, which is called the refined or *Knobbled Bloom*. This forge has been in operation since June 1853, making at this time about forty tons per week.

The Madison Iron and Mining Co. at Pilot Knob, own the Pilot Knob, Shepherd Mountain, Bogy Ore Bank; also the Shut-in, Christy, Pratt and Russell Banks, all of which Banks are within six miles of the Pilot Knob, the Shepherd Mountain being only ½ a mile distant. The Shepherd, Bogy, Christy and Shut-in ores are all of the first quality for making iron direct from the ore in the Catalan fire. That of the Shepherd Mountain is peculiarly adapted to the manufacture of steel, of all kinds; it is one of the most valuable ores in Missouri, and fully equal to the Denamora ores of Sweden, from which the best English cast-steel is made. The Bogy and Christy ores partake of the same nature with the Shepherd Mountain ore, and are very valuable for *steel-on*.

This Company have a forge of six Catalan fires making iron direct from the ore at Pilot Knob, capable of turning out 1200 tons of blooms per year. It has been in operation for the last three

years, and all its products have been used for steel, manufactured at Pittsburgh, Pa. There are also large beds of nematite ore on the lands of this Company, which, taken with the Pilot Knob ore and worked in the Blast Furnace, will produce the best quality of pig iron. The property of the above Company is the most valuable of any for the manufacture of iron and steel in South-East Missouri, in consequence of the great variety of iron ores which are found on their lands.

They have also one Blast furnace now in operation, and have made during the last six months, something over 1,000 tuns of pig metal of first quality for foundry uses. They are now erecting another furnace of large size which will turn out 3,000 tuns of metal annually.

The American Iron Mountain Co have two Blast Furnaces, running on cold blast, producing the last year 4,300 tons of pig metal. They are now building another furnace, which will be in operation in June next to work on warm or hot blast. This furnace will make an addition of 2.500 tons to their annual production. They are also hauling to Ste. Genevieve, for shipment upon the Ohio River to Cincinnati, Wheeling and Pittsburg, a large amount of ore. Now, in the month of February, 1854, there are about 25 teams engaged in hauling ore from the Iron Mountain region to the Mississippi river. The demand heretofore has been greater than the supply, on account of the want of teams. The average weight of loads hauled by the teams is about 5,000 lbs., and the distance about 42 miles. The plank-road is completed all the way.

During the year 1853 about 1200 tons of blooms were sent to Messrs. McKelvy & Blairs, and to Singer, Hartman & Co, of Pittsburgh, to be converted by the former firm into cast-steel, and by the latter into plough and spring steel.

We would here add that in the spring of 1848, Mr. E. Mead of St. Louis, shipped metal from the Iron Mountain of Missouri to England; and in the following spring received it back manufactured into razors and pocket and table cutlery by Jos. Rodgers & Sons, Sheffield, and it proved to be well adapted to the manufacture of fine steel cutlery.

We would also add that within the year 1853 Messrs. Child, Pratt & Co, of St. Louis, shipped about ten tons of metal from the Iron Mountain ore to Messrs. Edwards, Morris & Co., and to Livingston, Roggen & Co., of Pittsburgh, to be manufactured into lock-cases; and large quantities of Missouri iron lock-cases are imported from abroad, and are found to be superior to those made from any other iron.

We hope to obtain additional facts regarding the manufacture of Missouri iron, and present them soon with arguments in favor of concentrating millions of capital in the manufacture of Missouri iron at St. Louis.

LITERARY DEPARTMENT.

RENÉ.

FROM THE FRENCH OF CHATEAUBRIAND.

(*In Continuation.*)

BY THE JUNIOR EDITOR.

'Alas! I was alone, alone on the earth! A mysterious languor pervaded my body. That disgust for life, which I have experienced from my childhood, returned with increased force. Soon my heart furnished no longer food for my thoughts, and I perceived in my existence only a profound feeling of *ennui*.'

'I struggled for sometime against my malady, but with indifference, and could not overcome it with the strength of my resolution. At last, being unable to find the remedy for this singular wound of my heart, which was nowhere and yet was everywhere, I resolved to put an end to my life.'

'Priest of the Most High, who hearest me, pardon an unhappy one whom the heavens had almost deprived of reason. I was full of religion, and I was reasoning as if impious; my heart loved God, and my spirit did not know him; my acts, my words, my feelings, my thoughts, were one continued contradiction, darkness, illusion. But does man always know what he wants? Is he always sure of what he thinks?'

'I lost everything at once, friendship, world, retreat. I had tried them all, and they all proved fatal. Repulsed by society, abandoned by Amelie, when solitude failed what remained for me? It was the last plank on which I had hoped to save myself, and I felt even it sinking in the abyss!'

'Determined as I was to free myself from the load of life, I resolved to direct all my senses towards that senseless action. Nothing hastened me; I did not fix the moment of departure, in order to relish by long draughts the last moments of existence, and to collect all my strength, after the example of an ancient, that I might feel my soul pass away.'

'In the meantime I thought of the necessity of making arrangements concerning my fortune, and I was obliged to write to Amelie. Some complaints of her forgetfulness escaped me, and I doubtless permitted the appearance of commiseration which by degrees overcame my heart. I thought however that my secret was

well preserved; but my sister, accustomed to read within the recesses of my soul, divined it easily. She was alarmed by the tone of constraint which reigned throughout my letter, and by my questions on matters of business, to which I had never before given my attention. Instead of answering me, she came suddenly to surprise me.'

'To feel fully what really was in the sequel the bitterness of my grief, and what were my first transports on seeing Amelie again, you must know that she was the only person in the world whom I had loved, that all my memories rushed in confusion to her, with the pleasure of the memories of my childhood. I therefore received Amelie with an apparent delirium of the heart. It had been so long a time since I had found any one who understood me, and before whom I could open my soul!'

'Amelie, casting herself in my arms, said to me: "Ungrateful, thou wishest to die, and thy sister lives! Thou dost suspect her heart! Explain not thyself, excuse not thyself, I know all; I have understood all, as if I had been with thee. Can I be deceived, I, who have seen thy first feelings springing into life? Behold thy unhappy character, thy disgusts, thy unjust conduct. Swear, while I am pressing thee on my heart, swear that this is the last time thou wilt give thyself up to desperation: make oath that thou wilt never attempt thy days."'

'Pronouncing these words, Amelie looked on me with compassion and tenderness, and covered my forehead with her kisses; she acted like a mother, with a devotion the most tender. Alas! my heart opened itself again to every joy; like a child, I sought only to be consoled; I yielded to the sway of Amelie: she exacted a solemn oath; I made it without hesitation, not suspecting even that henceforth I could be unhappy.'

'We were more than a month accustoming ourselves to the enchantment of being together. When the morning came, instead of finding myself alone, I was hearing the voice of my sister, I was experiencing a thrill of joy and of happiness. Amelie had received from nature something divine; her soul had the same innocent graces as her body; the sweetness of her sentiments was infinite; she had nothing but what was gentle and delicately thoughtful in her spirit; one might say that her heart, her thought and her voice flowed as in concert; she united the modesty and the love of woman with the purity and the melody of the angel.'

'The time came for me to expiate all my inconsistencies. In my delirium, I have even prayed to experience a misfortune, to have at least a real object of affliction: dreadful wish, which God, in his wrath, has awfully fulfilled.'

'What am I about to reveal to you, O my friends! See ye the tears which flow from my eyes. Can I even * * * * Many days passed, nothing could draw this secret from me * * * Now all is done!'

'Yet, O venerable men, would that this history might forever be enveloped in silence: remember that it has been related to you only under the tree of the desert.'

'Winter was passing away, when I perceived that Amelie lost the repose and the health, which she began to restore to me. She was fading away, her eyes were sinking, her gait was languishing, and her voice failing. One day I surprised her in a flood of tears at the foot of a cross. The world, the solitude, my absence, my presence, the night, the day, everything alarmed her. Involuntary sighs arose and died on her lips; sometimes she took a long walk without exhaustion; at other times she scarcely drew herself along; she took up and laid down her work, opened a book without being able to read, began a sentence and left it unfinished, fell suddenly in tears, and retired to pray.'

'In vain I tried to find out her secret. When I asked for it, pressing her in my arms, she answered me with a smile, that she was like me, that she did not know what she had.'

'Three months passed in this wise, and her condition became worse each day. A mysterious correspondence seemed to me to be the cause of her tears; because she appeared, either more tranquil, or more disturbed, according to the letters she received. At last, one morning, the hour at which we took breakfast together being passed, I ascended to her apartment; I rapped: no one answered me; I opened the door: there was no one in the room. I saw by the chimney a packet with my address. I seized it trembling, I opened it, and I read that letter, which I preserve depriving myself in the future of every emotion of joy.'

"TO RENE."

"Heaven bears witness, my brother, that I would give my life a thousand times to spare you one moment of pain; but unfortunate that I am, I can do nothing for your happiness. You will therefore pardon me for having stolen myself away from home like

one culpable; I would have been unable to resist your prayers, and moreover I must go * * * My God, have pity on me!

"You know, René, that I have always had a proneness for religious life; it is time that I take advantage of the warnings of heaven. Why have I waited so long? God punishes me for it. On your account I was remaining in the world * * * Pardon, I am deeply afflicted with grief at leaving you.

"At present, my dear brother, I feel the necessity of those asylums, against which I have often heard you raise your voice. It is on account of misfortunes that we are separated forever from mankind: what then will become of the poor unfortunate? * * * I am persuaded that you, yourself, my brother, would find repose in those retreats of religion:, the world offers nothing that is worthy of you.

"I will not release you of your oath: I know your fidelity to your word. You have sworn you will live, live for me. Is there anything more miserable than the continual thought of quitting life? For a man of your character, it is so easy to die! Think of your sister, it is more difficult to live.

"But, my brother, as soon as possible, leave solitude, it is not good for you; seek some occupation. I know that you will smile bitterly at the necessity in France to *take an office*. Do not despise so much the experience and the wisdom of your fathers. It is better, my dear René, to be a little more like common men, and to have a little less of misfortune.

"Perhaps you might find in marriage a solace for your *ennuis*. A wife and children would engage your attention. And who is the woman that would not seek to render you happy! The ardor of your soul, the beauty of your genius, your noble and impassioned air, that proud yet tender look, everything would assure you of her love and her fidelity. Ah! with what delight would she press thee in her arms, and on her heart! As all her thoughts, all her attention would be bound to thee, to prevent thy least anxiety! She would be all love, all innocence before thee; thou wouldst believe that thou hadst again found a sister.

"I go to the convent of * * * This monastery, built on the brink of the sea, suits the condition of my soul. At night, from the depth of my cell, I will hear the murmur of the waves which bathe the walls of the convent; I will think of those walks I took with you amid the woods, when we thought we heard again the

noise of the sea in the waving top of the pines. Amiable companion of my childhood, is it possible I will see you no more? A little older than you, I used to rock you in your cradle; often have we slept together. Ah! that one and the same tomb might hereafter re-unite us! But no: I ought to sleep alone under the cold marble of that sanctuary, where those nuns who have never loved, rest forever.

"I know not if you can read these lines half blotted out by my tears. However, my friend, sooner or later, must we not part? What care I for entertaining you with the uncertainty and with the slight value of life? You remember the young M * * * who was shipwrecked on the Isle of France. When you received his last letter, some months after his death, even his mortal remains were no more; and when you began to mourn for him in Europe, at that instant, they ceased mourning for him in the Indies. How is it that the memory of a man dies so soon? A part of his friends are already consoled, before the other can hear of his death! What! dear and too dear René, will my memory vanish so soon from thy heart? O my brother! if I part from you on earth, it is to be united with you in eternity.

AMELIE."

"*P. S.*—Inclosed herewith I leave you a deed of donation of my property; I hope you will not refuse this token of my friendship."

'The lightning which might strike at my feet could not cause me more terror than that letter. What secret was it that Amelie concealed from me? Who could have forced her so suddenly to embrace the religious life? Had she bound me back to earth by the charm of friendship, only to forsake me at once? Ah! why did she come to dissuade me from my design? An emotion of pity had recalled her to me; but, soon wearied with a painful duty, she hastened to leave an unhappy man who had no one but her on the earth. She thought she had done all when she had prevented a man from dying! Such were my complaints. Then, returning to myself: Ungrateful Amelie, said I, if thou hadst been in my place; if, as I, thou hadst been lost in the vacuum of thy days, ah! thou wouldst not have been forsaken by thy brother!

'In the meantime, when I read her letter again, I found there something, I know not what, so sad and so tender, that my whole heart melted. Suddenly an idea sprang in my mind which gave

me some hope: I imagined that Amelie had perhaps conceived a passion for a man, which she dared not avow. This suspicion seemed to explain to me her melancholy, her mysterious correspondence, and the impassioned tone which breathed throughout her letter. I wrote to her immediately, intreating her to open her heart to me.

'She answered me quickly, but without disclosing her secret: she wrote me word only that she had obtained the dispensations of her probation-time, and that she would soon pronounce her vows

'I was shocked at the obstinacy of Amelie, at the mystery of her language, and at her want of confidence in my friendship.

After having hesitated a moment on the course I was to pursue, I resolved to go to B * * * and make a last effort in the presence of my sister. Along the route was the spot where I had been brought up. When I saw the woods where I had passed the only happy moments of my life, I could not stop my tears, nor could I resist the temptation of bidding it a final adieu.

'My elder brother had sold our father's homestead, and it was not occupied by the new landlord. I arrived at the castle by the long avenue of fir-trees; I crossed on foot over the deserted paths; I stopped to look at the windows closed or half-broken, the thistle which grew at the foot of the walls, the leaves strewn along the threshold of the doors, and the steps before the entrance all solitary where I had seen so often my father and his faithful servants. The steps were already covered with moss; the yellow wall-flower was growing in the crevices of their disjointed and tottering rocks. An unknown guardian opened the doors rudely. I hesitated about passing the threshold; that man cried out: "So ho! are you going to act like that stranger who came here some days ago? When she was passing in, she fainted away; and I was obliged to carry her back to her carriage." It was easy for me to recognize the *stranger* who, as I, had sought in that place for tears and memmories!

'Covering for a moment my eyes with my handkerchief, I entered under the roof of my ancestors. I passed through the sonorous apartments, where nothing could be heard but the noise of my steps. The chambers were scarcely enlightened by the feeble gleams, which penetrated between the closed shutters: I visited that where my mother had lost her life bringing me in the world, that where my father retired, that where I had slept in my cradle, that

at last where friendship had received my first vows in the bosom of a sister. Everywhere the halls were injured, and the spider was weaving its web on the abandoned bedsteads. I went hurriedly from those spots, I departed with rapid steps, without daring to turn my head. How pleasant but how fleeting are the moments which brothers and sisters pass in their early youth, reunited under the wing of their old parents! The family of man is only of a day; the breath of God scatters it like smoke. The son scarcely recognizes the father, the father the son, the brother the sister, the sister the brother! The oak sees its acorns springing up around it; it is not thus with the children of men!

'Arriving at B * * * I directed myself to the convent; I asked for an interview with my sister. They told me that she received no one. I wrote to her: she answered me that, on the point of consecrating herself to God, she was not allowed to give a thought to the world; that if I loved her, I would save her from being overwhelmed by my grief. She added: "However, if it is your intention to appear at the altar on the day of my profession, deign to act for me there as a father; this part is the only one worthy of your courage, the only one which suits our friendship and my repose."

'That cold firmness with which she opposed the glow of my friendship threw me into violent rage. At one time I was ready to retrace my steps; at another I wished to remain, only to hinder the sacrifice. A demon aroused within me the thought of stabbing myself in the church, and of blending my last sighs with the vows which sundered my sister from me. The superior of the convent prevented me; she had prepared a seat in the sanctuary, and invited me to attend the ceremony, which would take place the next day.

'At day-break I heard the first sound of the bells * * * At ten o'clock, with an agonized heart, I drew myself to the monastery. Nothing could be more tragic than when one has witnessed, nothing could be more mournful than when one has survived such a scene.'

(*Continuation forthcoming.*)

Valley of the Ohio.

BY MANN BUTLER, ESQ.

Continued from page 309, vol. XI. No. 4.

On the 23d day of May, 1775, the "proprietors of the colony having called and required an election of delegates or representatives to be made for the purpose of legislation," the deputies so chosen assembled at Boonesborough, on the Kentucky river.*

The colony was called, by a strange misnomer, *Transylvania*, as if it was *beyond* the woods, instead of being *in* them. This legislature, (a cismontane one to themselves) the *earliest legislative assembly* that ever met on *this* side of the Alleghany mountains, was addressed by Colonel Richard Henderson, in behalf of himself and his associates, in a speech of sufficient dignity and excellent sense.† It was decorously responded to, by the assembly, and quite regally rejoined to, by the Lords proprietors, as Col. Henderson and his co-partners may well be termed. But the most interesting transaction in this primitive convention, is the compact between the colonists of Transylvania and its proprietors, for the establishment of a free, manly system of government. This has often been the theme of speculative writers, but in this instance, a *formal social compact* is actually and literally presented by a report of a committee "appointed to draw up a compact between the proprietors and the people of this colony." The report represents that "whereas it is highly necessary for the peace of the proprietors and the security of the people of this colony, that the power of the one, and the liberties of the other, be ascertained, we Richard Henderson, Nathaniel Hart and J. Luttrell, in behalf of ourselves, as well as the other proprietors of Transylvania, on the one part, and the representatives of the people, on the other part, do most solemnly enter into the following contract and agreement, to wit: Including the most important parts of this type of the *Magna Charta* of our noble British ancestors are, "1st, that the election of Delegates in this colony be *annual*; 4th, that there be a perfect religious freedom and general toleration; provided that the propagators of any doctrine or tenets widely tending to the subversion of our laws, shall for such conduct be answerable to, and punishable by the civil courts; 5th, that the judges of the superior and inferior courts be appointed by the proprietors; but be supported by the people, and to them be answerable for their misconduct; 6th, that quit rents never exceed two shilling sterling (equal to 48 cents,) per hundred acres; that the legislative authority after the strength and maturity of the colony will permit, consist of three

* This assembly which tradition represents to have met under the shade of a large elm tree, near the fort wall, was composed of Squire Boone, William Coke, Samuel Henderson, William Moore and Richard Callaway, for the settlement of *Boonesborough*; for *Harrodsburg*, Thomas Slaughter, John Lythe, Valentine Harmond and James Douglass; for *Boiling Spring Settlement*, [near *Fountain Blue*, near Harrodsburg,] James Harrod, Nathan Hammond, Isaac Hite and Azariah Davis, for the town of *St. Asaph*, John Todd, Alexander Spottswood Dandridge, John Floyd and Samuel Wood. These members formed themselves into a legislative body, by electing *Thomas Slaughter* chairman, and *Matthew Jewett* clerk.

† See Appendix.

branches, to wit: the delegates or representatives chooen by the people, a council not exceeding twelve men, possessed of landed estate, residing in the colony, and the proprietors; 17th, that the convention have the whole power of raising and appropriating all public monies, and electing their *treasurer.*"

This epitome of substantial freedom and manly national government is most honorable to the liberality of the proprietors, and the spirit of the backwoodsmen of Kentucky, posted in the heart of a wilderness, surrounded by hostile barbarians. The compact, of which the above are the most interesting features, was in full solemnity executed under the hands and seals of the three proprietors, acting for the company, and of Thomas Slaughter, chairman, acting for the colonists.

After this fundamental organization of the government, it is worth while to notice the jealousy which was displayed in this first legislative assembly of the western pioneers, against intruders not identified with the interests of the colony, and not sharing its dangers. Such persons were not to partake of the game, nor enjoy its furs. The red man could not be more jealous of the trespasses of the white hunter, than were these whites themselves, of fellow-countrymen interloping within the unlimited forests around them.

Accordingly, on the motion most appropriately of that veteran hunter, Daniel Boone, a bill was introduced for *preserving the game*; and another bill was presented to the house by Squire Boone, the brother of Daniel, for *preserving the range.*" Both these appear to have become laws.

A ceremony took place at this convention which is not now required by ourselves — it was a formal livery and seizin and cession of the lands mentioned in a deed of feoffment then produced. For this purpose Col. Henderson received this ancient Gothic conveyance by delivery of a turf part, of the land conveyed from John Farrow, attorney in fact for the head warriors or chiefs of the Cherokee Indians, in presence of the convention: and the deed of the Indians was produced and its boundaries entered in the journal of the convention. (See Appendix.)

This negociation had not escaped the notice of Lord Dunmore, then governor of Virginia; he issued a proclamation against "*one Richard Henderson and other disorderly persons*, his associates, who, under pretence of a purchase from the Indians, contrary to the aforesaid orders and regulations of his majesty, do set up a claim to the lands of the crown, within the limits of the colony." This proclamation may well rank with the one, from another royal representative, excepting those arch traitors and rebels, *Samuel Adams and John Hancock* from the *mercy* of the same British monarch. But although the royal proclamation had little force in *Transylvania*, still the interregnum and disturbances of the population which now involved Virginia with the rest of her sister colonies, did not divert the sagacious vigilance of the republican government of Virginia from this formidable interference with her chartered limits.*

About the 16th July, 1776, it was discovered from the *sign*, as the marks of the enemy's presence were termed, that a large body of

* Hall, II, 236. Annals of the West, 169.

Indians had come into the country with hostile intentions, and had, according to their mode of invasion, dispersed in small bands, infesting the stations, at the same time.

Before, however, tracing these sad invasions which were only a prelude to the fearful calamities of Indian warfare which raged so long, in Kentucky and the West, we will advert to a mission of Geo. Rogers Clark and one Jones to Virginia.

They had indeed been chosen as members of the convention of Virginia; but without authority of law for that purpose. Nor was this the course intended by Clark; "he wanted," he says, "the people to choose agents charged with general powers to negotiate with the government of Virginia."

That Commonwealth was profoundly and fully engrosed by the soul stirring concerns of the opening revolution, the results of which have told so gloriously, not only for our own countrymen but for the freedom and happiness of the world. It has indeed opened "an asylum for oppressed humanity," deserving the gratitude of the world, to God in the first instance, and to the people whom he led through privations and sufferings to these blessed results. Still amid those perilous times of social commotion, the Legislature of Virginia having on the 29th of June, 1776, declared the State independent of Great Britain, thus anticipating the declaration of the United States in Congress assembled; yet, on the petition of the pioneers through their envoy, George R. Clark, at the October session, established the county of Kentucky.

Clark and Jones now returned to Kentucky, having not only brought with them from Fort Pitt, ammunition given by Virginia, so difficult to obtain, and yet so indispensable in the woods this party likewise brought with them the still more animating news that the "Ancient Dominion" had taken this forlorn hope in her western frontier under the guardianship of her republican constitution and laws.

At the October *session* of 1776, but not till the 7th *December* 1776, of that session, the *county of Kentucky* was established out of what had previously been termed Fincastle county. It embraced "*all* the country lying south and westward of a line beginning on the Ohio, at the mouth of Great Sandy creek, [now Big Sandy river; and running up the same, and the main or northeasterly branch thereof, to the great Laurel Ridge, or Cumberland mountain: and with that to the line of North Carolina," now the State of Tennessee. The Executive Council of Virginia proceeded to organize this new county in the wilderness, hundreds of miles from her settlements, by appointing a sheriff and justices of the peace, the old officers of our Saxon forefathers, as well as officers for the militia for the county.*

* The only magistrates whose names I have been able to ascertain are David Robinson, "John Todd, John Floyd, Benjamin Logan, John Bauman, and Richard Calloway." All names that stood the high proof of the times. Of th es

This municipal court, the principal and primitive form of western government, has proved a perfect polypus, if we regard the present almost countless municipal subdivisions into which the western country has been distributed. This court had a limited jurisdiction and might hold monthly sessions for the dispatch of ordinary business. It was under the old constitution of Virginia a fiscal, as well as a judicial tribunal. It first went into operation at Harrodsburg in 1777.

Colonel Bowman promptly arranged the citizens, whether permanent residents or not, in companies and batallions. Thus was organized the infant colony of Virginia, under the command of a county lieutenant with the rank of colonel. Nor was it an imperfect type of their ancestors, who had migrated to Jamestown and founded the parent Commonwealth. Let us for a moment consider the situation of our pioneers, at this period of their history. They were posted in the heart of the most favorite hunting ground of numerous and hostile tribes of ferocious savages, on the north and upon the south. It was a ground endeared to these tribes by its profusion of the finest game, subsisting on the luxuriant vegetation of this great natural park, in fatness not surpassed by the flocks and herds of agricultural society. It was emphatically the Eden of the red man. Was it then wonderful that all his fiercest passions and wildest energies should be aroused in its defence against an enemy whose success was the Indian's downfall? So wide spread were the enemies, into whose power our hand-ful of hunters had thrown themselves, that they occupied the present territory of Tennessee, and the whole northwestern side of the Ohio river, now embracing the States of Ohio, Michigan, Wisconsin, Illinois and Indiana. These territories now embracing with a sparse population of five millions and a half of people, were the stronghold of the most ferocious and warlike savages, on this continent. They had frequently wasted the frontiers of the Carolinas, Pennsylvania and Virginia with the tomahawk and fire. Moreover the enemy was freely, at this time, and throughout a contest of twenty years, assisted by the arts and the treasure of Great Britain, feasted and furnished with arms by her military officers, from Detroit to Kaskaskia. Yet this little band of pioneers, so unequally matched with their enemies, was separated, by three or four hundred miles of Indian wilderness from the nearest fort of their countrymen at Pittsburg, and fully six hundred miles from the seat of government of Virginia, with forest and wilderness between them. Under such appaling circumstances may not this forlorn hope of our first settlers in the western wilderness bear some honorable comparison with the gallant, daring and noble enterprise of the fathers of our great republic, who led the way across the Atlantic waves, and

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Benjamin Logan was appointed first colonel of Kentucky county, and Anthony Bledsol first lieutenant-colonel: Levi Todd as the first clerk.

founded an empire of freedom for the world, at Jamestown and Plymouth?

But well might the Indians have contested this fatal lodgment of ancient enemies in their fairest hunting grounds, with the last drop of their blood—well might they have anticipated the evils in store for them, and their whole race from this stand of the white man, in the midst of their great western park—the great natural preserve of the game which subsisted their people. They had seen the progress of the hated race from the Atlantic to the eastern side of the Alleghanies, and what better fate could they have expected in the West from the same antagonistic race of men?

The very treaty of Wataga implies considerable amity on the part of the Cherokees: though Boone was told on this very treaty by an old Indian chief who took him by the hand; "Brother," said the chief, "we have given you a fine land, but I believe you will have much trouble in settling it.* Could the Indian have alluded to the claims of the north-western tribes to the very grounds alienated to the whites by his countrymen? Yet the slightest reflection, much more the sagacity native to the Indian, must have suggested the fatality to them of this settlement of the white man south of the Ohio. The genius which had inspired their Pontiac, and which afterwards animated the Turtle and Tecumseh, could not have been more nobly exercised, than in crushing this daring encroachment upon their forests.

But combination is difficult, if not impossible, with tribes so hostile to each other; their own internal divisions are their most destructive enemies. These have furnished every European enemy by turns with their most powerful arms against them. Never, but by spasmodic efforts and by the inspiration of their most gifted chiefs have they been able to effect any combined effort against the whites.

To this remark, the celebrated confederacy of the Six Nations presents an exception, which is unrivalled among the tribes north of Mexico.

* Filson, 77.

THE MINING MAGAZINE.

This periodical is one of the most valuable and leading publications in the United States. The field which it occupies is comparatively a new one in American literature, and its labor in the development of our mineral resources, adds lustre to the glory of the country. While every reader of its pages is enlightened on a subject, which is one of the great bases of civilization and substantial progress, he, who is interested in iron, coal, copper, lead, silver or gold, is blind to his own

interests, if he does not patronize this work, and profit by its contents.

We hope to see the vast beds and mountains of minerals in Missouri occupying a wider space in the *Magazine*, and to hear that this periodical receives liberal subscriptions from the West.

The Mining Magazine is published monthly, at Five dollars per annum, payable in advance, by Wm. J. Tenney, 142 Fulton Street, New York, to which address all communications should be sent.

MUSIC.

Messrs. Balmer & Weber, of St. Louis, are publishing a large variety of beautiful and brilliant musical pieces; and the fineness of the mechanical execution of the print is in tone with the melody of the music.

We have observed and heard a great many of these pieces, and consider, with those who are acknowledged *connoisseurs*, that the "Mound City Waltzes," fair samples of the style, are bound to turn the head and heart of lovers of this art by their fascinating charms.

We have heretofore expressed our opinion of the superior social benefit of combining the finest sentiments of friendship, of affection and of country, with the finest musical composition, and hope that the public taste will soon make a greater demand for this combined satisfaction.

Translated from the German.

MY HEART.

A Song.

My heart, this question answer,
Tell me what love is? say!
Two souls with one emotion,
Two hearts with single sway.

And tell me where love comes from?
From beauty to the heart.
And say, how does love vanish?
True love cannot depart.

And when is love the purest?
When free from selfish will.
And when is love the deepest?
When flowing, strong and still.

And when is love the richest?
When giving without claims.
And what words does love talk with?
It does not talk, it flames.

Mein Herz, ich will dich fragen,
Was iſt denn Liebe? ſag'!
Zwei Seelen und ein Gedanken,
Zwei Herzen und ein Schlag.

Und ſprich, woher kommt Liebe?
Sie kommt, und ſie iſt da.
Und ſprich, wie ſchwindet Liebe?
Die war's nicht, der's geſchah.

Und wenn iſt Lieb' am reinſten?
Wenn ſie ſich ſelbſt vergißt.
Und wenn iſt Lieb' am tiefſten?
Wenn ſie am ſtillſten iſt.

Und wenn iſt Lieb' am reichſten?
Das iſt ſie wenn ſie giebt.
Und ſprich, wie redet Liebe?
Sie redet nicht, ſie liebt.

THE

WESTERN JOURNAL

and Civilian.

VOL. XI. March, 1854. No. VI.

ARTICLE I.

Pacific Railroad: The Senate Bill.

No public measure has so fully occupied the attention of the American people for several years past as the construction of a railway from the Mississippi river to the Pacific ocean. The subject has been discussed in all its bearings and aspects by the press, by candidates at the hustings, by conventions called for that especial object, by State Legislatures, and by Congress; and never, perhaps, has the voice of the nation been more distinctly pronounced, or more unanimous upon any one subject, than in favor of this great enterprise.

It is true, there has been a want of agreement in respect to location, and, also, touching the amount of aid to be extended by the General Government, and the manner of conducting the work: all this was natural; it was to be expected that each of the great divisions of the country would desire the location to be made where it would best promote their respective interests. It was natural, also, that men should differ in opinion in respect to the amount of aid to be appropriated by Congress, and upon many other points involved in the economy of carrying on the work. But all seemed to agree that the road was necessary as a social and political bond to strengthen and conserve the union of the inhabitants of the eastern and western slopes of the continent; that it was necessary as a means of national defence; as a means of extending our commerce, and of developing the natural and industrial resources of the entire country. Nor have we heard of any objection being urged against an appropriation on the part of Congress, sufficient in amount, to insure the accomplishment of the work.

In view of these facts, we were authorized to expect that the appropriate committees in Congress would take a liberal, compre-

hensive and statesmanlike view of the subject, and report a bill to their respective Houses which would correspond with the national sentiment, in making certain and ample provision for the construction of the work in the shortest time compatable with a reasonable economy. And, that their conceptions rising to the grandeur of the enterprise embracing the mighty results expected from its consummation, would bring forth a scheme combining the elements necessary to insure a speedy consummation of the work, and at the same time promote the settlement and improvement of the region through which the road might be located.

But we are constrained to say that, to our view, the principles and provisions of the bill reported to the Senate by its committee are narrow in conception and badly digested. The aid proposed is, in our opinion, totally inadequate to the object, and is withal embarrassed with so many contingencies that it is doubtful whether capitalists will regard it as any inducement whatever to the undertaking of the enterprise.

Except the right of way, the only aid proposed by the bill, consists of twenty sections of land for each mile of road, to be located in alternate sections within twenty miles of the line.

We have been seeking information touching the character of the country between the Western States and the Pacific ocean for many years, and we are fully persuaded that at least three fourths of the land that would fall to the lot of the contractors for the work on any line of road commencing on the border of either of the States west of the Mississippi, would not, in twenty years, sell for an amount sufficient to pay the cost of surveying it. We believe that an average of five sections of saleable land to the mile of road is a large estimate, and, that this could not be made available at an average of more than one dollar and twenty-five cents per acre: for it is to be remembered that one half of this land must be located at distances ranging from ten to twenty miles from the road.

Hence, according to our estimate, the right of way and four thousand dollars per mile is all the "material aid" proposed to be given by the Government to the most important national work ever undertaken by any people. But even this is encumbered and embarrassed with provisions and restrictions which are, in our opinion, calculated to lessen the value of the enterprise, to those who may build the road, to an amount at least equal to the value

of the land appropriated. Let us examine these provisions and restrictions. At the end of forty years from the time the work shall have been completed, the owners are bound to surrender it with all its improvements in a state of complete repair to the Government of the United States. Now, when we reflect that the contractors can receive little or no profit on the money invested during the seven years that the building of the road is progressing, and that their dividends are limited to twelve per cent. per annum after the road goes into operation, and that no dividends are guaranteed to them in case the road should turn out unprofitable, it is obvious that the limitation of the possession and use of the road to a term of forty years is unreasonable. We know of no road in this country that has been chartered for a less term than fifty years; and if the road to the Pacific when completed should cost $50,000 per mile, and pay dividends at the rate of eight per cent. per annum, the addition of ten years to the term would be worth more to the company than the land proposed to be given by the bill. But the bill provides that "the United States may, also, by an act of Congress, resume the said road, and all the franchises hereby granted, on paying to said individual or company, the monies which he or they shall have actually expended in making and equiping said road, with a nett profit of twelve per cent. interest per annum thereon, exclusive of the monies and land to be estimated at one dollar and twenty-five cents per acre, received from the United States, and also with the deduction of such profits as may have accrued to such individual or company up to the period of such resumption." Now according to our understanding of this clause, so far from offering any inducement to capitalists to undertake the work, it is calculated to prevent judicious men from investing their means in the enterprise. For the twelve per cent. per annum on the money invested would be a poor compensation in case the United States should resume the road immediately when completed, after deducting sixteen thousand dollars from the cost of each mile of road for the twenty sections of land charged at one dollar and twenty-five cents per acre. Nor can the provision touching the transportation of the mail, be regarded as more beneficial to the contractors than to the United States; for were the road made and owned by a company having no connection with the Government, there is little doubt that the latter would be compelled to pay for this object at least $6,00 per mile, per annum; which is the maximum paid by the bill.

The committee is composed of highly intelligent and honorable men, but we are persuaded that they have greatly overrated the value of the land proposed to be given in aid of the work, while they have underrated the cost of building the road, and the difficulties of obtaining the amount of capital necessary for that object. Nor does the bill, in our opinion, reflect the sentiment of the nation. The people desire that the road should be constructed; and they demand of Congress aid sufficient to insure its completion, let the amount required be great or small. But instead of that generous aid and encouragement in behalf of the measure which the country desires, and has a right to expect, the bill bears all the marks of a hard and cunningly devised proposition made by a speculating landholder, aiming to make a profit on the right of way out of an enterprising railroad company, while he knows that whether the work should turn out profitable to them or not, it will greatly enhance the value of his own estate.

We do not charge the committee with a design to favor any one route more than another; but it is obvious to our mind that if any road should be undertaken under the provisions of this bill, it must commence on the western boundary of Texas where the distance across the territory of the United States is the shortest. And here we are constrained to contrast the enlightened liberality of Texas with the grinding and short-sighted parsimony of the General Government as manifested by the Senate bill. From the best information we possess in respect to the country, we conclude that a road from the western boundary of Arkansas to the Rio Del Norte would pass through as much good land as could be found on the entire route of any other line; and by an act of her legislature, Texas proposes to give twenty sections of land to aid in the construction of a road to be built under a charter for nine hundred and ninety-nine years. Were the privileges proposed by the Senate bill as liberal as those contained in the Texas charter, the road might probably be built on that route; but should the bill pass in its present form, we are persuaded that it will be difficult to find contractors, other than mere speculators, to undertake the work west of the Rio del Norte, even in continuation of the Texas line.

To our view the bill appears to be based upon the spirit of speculation which rules the present day, and the committee seem to have concluded that if, while the railroad mania prevailed, a con-

tract could be made with a company of speculators, the accomplishment of the work would be secured beyond all contingencies. But could an individual or company be found who are willing and able to deposit the $2,000,000 required as security, and a revulsion should occur, such as we have seen, and such as may be expected again before the road is completed, the work would be suspended as an inevitable consequence, and many years elapse before it would be resumed.

It is remarkable that while one branch of Congress is discussing the policy of giving away the public lands to settlers, and actually pass a bill providing for that object; and, while the proposition to give Mexico $20,000,000 for a small slip of barren desert is generally regarded with approbation, the Senate committee on the Pacific railroad should manifest such a rigid regard for economy as to devise a scheme calculated to defeat the accomplishment of a work of more value to the nation than would be the acquisition of all Mexico.

We have heretofore advocated the appropriation of public lands in aid of public improvements in the States in which the lands are located, upon reasons which we believe to be sound and just; but a different state of facts is now presented in connection with a road to the Pacific ocean; and hence we are opposed to the policy of giving to any individual or company who may undertake to build the Pacific road any right or control of more land than is necessary for the tracks and stations.

No one, we think, will deny the wisdom of a policy which would encourage the establishment of a continuous chain of settlements, from the Western States to the Pacific ocean. Such a chain of settlements, made at an early day, along the line of the railroad proposed to be built, would be of more value, in a national point of view, than the lands they would occupy, and would greatly facilitate the accomplishment of the work. And if there is any portion of the public domain that might be donated to settlers with perfect propriety, it is the great pastoral region between the States and the Pacific coast. Indeed so small a part of it can ever be used for strictly agricultural purposes, that it would be a useless expense on the part of the Government, even to lay off the entire country into tracts less than townships. But, be this as it may, instead of transferring these lands to a company to be held from sale until the highest prices can be obtained, a wise statesman

would not only give them to those who would settle upon them, but would regard the settlement of the country as an inducement to make a liberal appropriation in aid of the road.

Why, we ask, should the Government look to the public domain as a source of revenue when its revenue from imports are greatly in excess of the national expenditures, and so large as to have become a source of anxiety to the administration, and detrimental to the commercial and industrial pursuits of the country? We hold that the pioneers who open the way for the settlement of new territories are justly entitled to a reasonable quantity of land in consideration of their privations and their services in the cause of civilization. But so far from recognizing any merit in the pioneer, the Senate bill proposes to transfer the land to a soulless corporation that will aim to obtain at least one hundred per cent. on the government price.

All fair and liberal-minded men must surely deprecate an attempt on the part of the Government to impose the burden of building the Pacific railroad upon the emigrants who may settle on the waste lands within a certain distance of the line. For it matters not how the operation may be disguised, the bill proposes to give no other aid to the road than so much money as can be obtained for the land, and this must ultimately be paid by those who settle upon it. In effect, the case stands thus: The people of the United States desire a railroad from the Mississippi to the Pacific, and regarding it as a national work, and one involving the investment of too much money to be accomplished by individual enterprise, they ask Congress to assist in carrying it on; the Senate committee to whom the subject is referred respond that the Government will not give any money from the public treasury, tho' it is so full as to be troublesome, but that the United States owns an abundance of waste land, a certain quantity of which they will transfer to any one who will undertake to build the road, giving to the contractors the privilege of exacting all the money they can obtain for said land from the emigrants who may settle upon and improve it.

We unhesitatingly aver that, in our judgment, a simple grant of the right of way over the public lands for only fifty years would be more acceptable to the capitalist than the paltry appropriation proposed by this bill incumbered and ambarrassed as it is with so many contingencies.

After viewing the subject in all its aspects, we arrived at the conclusion, some years ago, that no mode of carrying on the work could ever be agreed on by Congress which would be more efficient and at the same time more acceptable to the people than one confiding the work to a company incorporated by some one or more of the States; and here we are pleased to find that this view has been adopted by the committee who reported this bill. This may be regarded as the correct basis of the measure, and with proper amendments, the bill might be made acceptable to all parties, ensure the speedy accomplishment of the enterprise, and, at the same time, give encouragement to the settlement of the country through which the road may be located.

Strike out the land provision in toto: and let Congress give a sum in money or government securities not exceeding $25,000 per mile; and, in consideration thereof, bind the individual or company who will undertake the work at the lowest bid, to carry the mails and the troops and property of the United States free of charge forever. Let the charter be perpetual, and the profits of the company limited to twelve per cent. per annum upon its own investment, with a provision that the profits should be reduced at certain reasonable periods until brought down to eight per cent. per annum.

Such a provision will, in our opinion, insure the undertaking and completion of the work in the shortest time compatable with a judicious economy; the Government will receive remuneration for its investment, and the people and commerce of the nation at large will be benefitted to the full extent of the means advanced by Congress.

By the adoption of this principle, the lands along the line of the road will be left under the control of the government to be sold at a reasonable price, or given to settlers under the laws governing other parts of the public domain. And as soon as the location of the road is established, and made known to the public, settlements will begin along the line, and extending from the border of the Western States to the Pacific, wherever arable land or pasture can be found, they will not only facilitate the construction of the work, but constitute an important social bond between the eastern and western slopes of the continent, long before the road can be completed. This is a branch of the subject that should not be overlooked by American statesmen.

For, if for the purpose of saving the payment of a few millions out of an overflowing treasury, the lands along the route should be transferred to speculators whose interest it will be to make them sell for the greatest amount of money, the action of Congress upon this subject will be degraded below the dignity of a national measure, and American legislation, in this as in too many other instances, may be justly denominated a system of short-sighted, incongruous and petty expedients.

ARTICLE II.

The First Settlement of Kentucky.

NARRATIVE OF AN ADVENTURE IN THE YEAR 1778.

Editors of Western Journal.

I send you the following communication taken from the above named journal, as emphatically appropriate to your own. You have shown so hearty a devotion to the feelings, the rights and the interests of the West, that the republication of so curious a "Narrative" will be quite as much a labor of love, as of editorial duty.

The occasion on which the adventure related in the "Narrative" took place was this. In the fall of 1774, Col's. Henderson and Hart (the latter the great grand father of *Henry C. Hart*, of our own city), entered into an informal treaty at the Sycamore Shoals, on the Wataga river, for the purchase of the western portion of Kentucky, lying between the Kentucky river, the Cumberland mountains, the Ohio and Tennessee. This purchase was consummated on the 17th of March, 1775, by the treaty of *Wataga*, by giving the Cherokees £10,000 sterling in goods. In this treaty the Kentucky river is mentioned "as called *Louisa river* by the English;" it had been so called by Doctor Thomas Walker, in 1747. This was corrupted into *Levisa*, as it is called in the M'Afee papers, and hence *Leowvisay* of the "Narrative" by another corruption, I suppose. The colony of *Transylvania*, and its constitution, the *first* legislative compact west of the Alleghanies, established by the deputies of the people, and the consent of the proprietors, receives new evidence from this "Narrative."

The proof of those curious transactions was supposed to be confined to the correspondence of Col. Floyd and the Henderson papers formerly trusted to my care, and published in a History of the Commonwealth of Kentucky, in 1834. The colony of *Transylvania* was so effectually suppressed by the united action of Virginia and North Ca-

rolina, in accordance with the ancient policy of the country forbidding treaties by private persons with the Indians, that scarcely a vestige of its existence remains. The grants of the two States of 200,000 acres of land each, in extinguishment of the illegal but equitable right of the company, are the only surviving public records of the transaction. The Henderson grant embracing the town of *Henderson* or *Red Banks* was given by Virginia, and as much by North Carolina in Powel's Valley.

This new confirmation of these ancient events, [if anything can be ancient in this new country,] must be highly gratifying to those whose curiosity is not confined to the heroic events of Greek and Roman story; but who have heart enough to embrace the gallant deeds of our western pioneers. Respectfully, MANN BUTLER.

St. Louis, March, 1854.

From *De Bow's Review, Feb.*, 1854.

NARRATIVE OF AN ADVENTURE IN KENTUCKY IN THE YEAR 1775.

We are indebted to Saml. R. Walker, of New Orleans, for a very interesting manuscript, prepared by his grandfather, the Hon. Felix Walker, of North Carolina, for some time a member of Congress, and one of the earliest pioneers in the Western wilds. Our readers will be pleased with such a memento of the "hunter times" of that great State, rendered illustrious by the achievements of Boone and his compeers. We have published several such sketches in the past.—ED.

In the month of February in that year, Captain William Twetty, Samuel Coburn, James Bridges, Thomas Johnson, John Hart, William Hicks, James Peeke, and myself, set out from Rutherford County, North Carolina, to explore a country by the name of Leowvisay,* greatly renowned and highly spoken of as the best quality of land, abounding in game, now the State of Kentucky.

We placed ourselves under the care and direction of Captain Twetty, an active and enterprising woodsman, of good original mind and great benevolence, and although a light habited man, in strength and agility of bodily powers was not surpassed by any of his day and time, well calculated for the enterprise.

We proceeded to Watawgo† river, a tributary stream of Holsteen,‡ to the residence of Colonel Charles Robertson, now in the State of Tennessee, where a treaty was held by Colonel Richard Henderson and his associates, with the Cherokee tribe of Indians, for the purchase of that section of country we were going to visit, then called the Bloody Ground, so named from the continual wars and quarrels of the hunting parties of Indians of different tribes who all claimed the ground as their own, and the privilege of hunting the game; who murdered and plundered each other, as opportunity offered.

We continued at Watawgo during the treaty, which lasted about twenty days. Among others, there was a distinguished chief called

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* Louisa or Levisa.
† Wataga.
‡ Holston.

Atticulaculla, the Indian name, known to the white people by the name of the Little Carpenter — in allusion, say the Indians, to his deep, artful, and ingenious diplomatic abilities, ably demonstrated in negotiating treaties with the white people, and influence in their national councils; like as a white carpenter could make every notch and joint fit in wood, so he could bring all his views to fill and fit their places in the political machinery of his nation. He was the most celebrated and influential Indian among all the tribes then known; considered as the Solon of his day. He was said to be about ninety years of age, a very small man, and so lean and light habited, that I scarcely believe he would have exceeded more in weight than a pound for each year of his life. He was marked with two large scores or scars on each cheek, his ears cut and banded with silver, hanging nearly down on each shoulder, the ancient Indian mode of distinction in some tribes and fashion in others. In one of his public talks delivered to the whites, he spoke to this effect: he was an old man, had presided as chief in their council, and as president of his nation for more than half a century, had formerly been appointed agent and envoy extraordinary to the king of England on business of the first importance to his nation; he crossed the big water, arrived at his destination, was received with great distinction, had the honor of dining with his majesty and the nobility; had the utmost respect paid him by the great men among the white people; had accomplished his mission with success; and from the long standing in the highest dignities of his nation, he claimed the confidence and good faith in all and every thing he would advance in support of the rightful claims of his people to the Bloody Ground, then in treaty to be sold to the white people. His name is mentioned in the life of General Marion, at a treaty held with the Cherokees at Kewee, in South Carolina, in the year 1762 or '63. The treaty being concluded and the purchase made, we proceeded on our journey to meet Col. Daniel Boon, with other adventurers, bound to the same country: accordingly we met and rendezvoused at the Long Island on Holsteen river, united our small force with Colonel Boon and his associates, his brother, Squire Boon, and Col. Richard Callaway, of Virginia. Our company, when united, amounted to 30 persons. We then, by general consent, put ourselves under the management and control of Col. Boon, who was to be our pilot and conductor through the wilderness, to the promised land; perhaps no adventurers since the days of Don Quixote, or before, ever felt so cheerful and elated in prospect; every heart abounded with joy and excitement in anticipating the new things we would see, and the romantic scenes through which we must pass; and, exclusive of the novelty of the journey, the advantages and accumulations ensuing on the settlement of a new country was a dazzling object with many of our company. Under the influence of these impressions we went our way rejoicing, with transporting views of our success, taking our leave of the civilized world for a season.

About the 10th of March we put off from the Long Island, marked our track with our hatchets, crossed Clinch and Powell's river, over Cumberland mountain, and crossed Cumberland river—came to a watercourse called by Col. ——— Rockcastle river; killed a fine bear on our way, camped all night, and had an excellent supper.

On leaving that river, we had to encounter and cut our way through a country of about twenty miles, entirely covered with dead brush, which we found a difficult and laborious task. At the end of which we arrived at the commencement of a cane country, traveled about 30 miles through thick cane and reed, and as the cane ceased, we began to discover the pleasing and rapturous appearance of the plains of Kentucky. A new sky and strange earth seemed to be presented to our view. So rich a soil we had never seen before; covered with clover in full bloom, the woods were abounding with wild game—turkeys so numerous that it might be said they appeared but one flock, universally scattered in the woods. It appeared that nature, in the profusion of her bounty, had spread a feast for all that lives, both for the animal and rational world. A sight so delightful to our view and grateful to our feelings, almost inclined us, in imitation of Columbus, in transport to kiss the soil of Kentucky, as he hailed and saluted the sand on his first setting his foot on the shores of America. The appearance of the country coming up to the full measure of our expectations, and seemed to exceed the fruitful source of our imaginary prospects.

We felt ourselves as passengers through a wilderness just arrived at the fields of Elysium, or at a garden where was no forbidden fruit. Nothing can furnish the contemplative mind with more sublime reflections, than nature unbroken by art; we can there trace the wisdom of the Great Architect in the construction of his works in nature's simplicity, which, when he had finished, he pronounced all good. But, alas! fond man! the vision of a moment made dream of a dream, and shadow of a shade! Man may appoint, but One greater than man can disappoint. A sad reverse overtook us two days after, on our way to Kentucky river. On the 25th March, 1775, we were fired on by the Indians, in our camp asleep, about an hour before day. Capt. Twetty was shot in both knees, and died the third day after. A black man, his body servant, killed dead; myself badly wounded; our company dispersed. So fatal and tragical an event cast a deep gloom of melancholy over all our prospects, and high calculations of long life and happy days in our newly-discovered country were prostrated; hope vanished from the most of us, and left us suspended in the tumult of uncertainty and conjecture. Col. Boon, and a few others, appeared to possess firmness and fortitude. In our calamitous situation, a circumstance occurred one morning after our misfortunes, that proved the courage and stability of our few remaining men [for some had gone back]. One of our men, who had run off at the fire of the Indians on our camp, was discovered peeping from behind a tree, by a black woman belonging to Colonel Callaway, while gathering small wood. She ran in, and gave the alarm of Indians. Colonel Boon instantly caught his rifle, ordered the few men to form, take trees, and give battle, and not to run till they saw him fall. They formed agreeably to his directions, and I believe they would have fought with equal bravery to any Spartan band ever brought to the field of action, when the man behind the tree announced his name, and came in. My situation was critical and dangerous, being then a youth, three hundred miles from white inhabitants. My friend and guardian, Captain Twetty, taken dead from my side, my wounds pro-

nounced by some to be mortal, produced very serious reflections. Yet withal I retained firmness to support me under the pressure of distress, and did not suffer me to languish in depression of mind.

But where shall I begin, or where can I end, in thanks and grateful acknowledgments to that benign and merciful Protector who spared and preserved me in the blaze of danger and in the midst of death! I trust I shall remember that singular and protecting event, with filial sensations of gratitude, while I retain my recollection. We remained at the same place twelve days; I could not be removed sooner without the danger of instant death. At length I was carried in a litter between two horses, twelve miles, to Kentucky river, where we made a station, and called it Boonsborough, situated in a plain on the south side of the river, wherein was a lick with two sulphur springs strongly impregnated. On entering the plain we were permitted to view a very interesting and romantic sight. A number of buffaloes, of all sizes, supposed to be between two and three hundred, made off from the lick in every direction; some running, some walking, others loping slowly and carelessly, with young calves playing, skipping, and bounding through the plain. Such a sight some of us never saw before, nor perhaps never may again. But to proceed. Colonel Richard Henderson, Colonel Luttrell, from North Carolina; Captain William Cock, since the Honorable Judge Cock, of Tennessee, and Colonel Thomas Slaughter, of Virginia, arrived in the month of April with a company of about thirty men. Our military forces, when united, numbered about sixty or sixty-five men, expert riflemen. We lived plentifully on wild meat, buffalo, bear, deer, and turkey, without bread or salt, generally in good health, until the month of July, when I left the country.

Colonel Richard Henderson, being the chief proprietor in the purchase of the bloody ground [indeed so to us], acted as Governor, called an assembly, by election of members, out of our small numbers; organized a government, convened the assembly in May, 1775, consisting of eighteen members, exclusive of the speaker, passed several laws for the regulation of our little community, well adapted to the policy of an infant goverhment*

This assembly was held under two shade trees, in the plains of Boonsborough. This was the first feature of civilization ever attempted in what is now called the Western Country.

This small beginning, that little germ of policy, by a few adventurers from North Carolina, has given birth to the now flourishing State of Kentucky. From that period the population increased with such rapidity, that in less than twenty years it became a State.

In justice to Colonel Henderson, it may be said, that his message or address to the assembly alluded to was considered equal to any of like kind ever delivered to any deliberate body in that day and time.

In the sequel and conclusion of my narrative I must not neglect to give honor to whom honor is due. Colonel Boon conducted the company under his care through the wilderness, with great propriety, intrepidity, and courage; and was I to enter an exception to any part of

* The first legislature in the western country of the United States, and the colony was called Transylvania still retained in the University of that name.

his conduct, it would be on the ground that he appeared void of fear and of consequence—too little caution for the enterprise. But let me, with feeling recollection and lasting gratitude, ever remember the unremitting kindness, sympathy, and attention paid to me by Col. Boon in my distress. He was my father, my physician, and friend; he attended me as his child, cured my wounds by the use of medicines from the woods, nursed me with paternal affection until I recovered, without the expectation of reward. Gratitude is the only tribute I can pay to his memory. He is now beyond the praise or the blame of mortals, in that world unknown from whose bourne no traveler returns. I also was kindly treated by all my companions, particularly John Kennedy. From Captain Cock I received kind and friendly attentions.

We continued in our station; our men were out viewing and exploring the country, choosing such tracts of land as suited them, plenty for all, and thought all was our own.

Colonel James Herod,† my old acquaintanne in North Carolina, come up to see me, tarried a few days. Being a little recovered, I went home with him to his station, since called Herodsburgh,, where he had a few men. I tarried there two weeks, and returned to Boonsborough. These two stations contained the whole population of that country, which did not exceed in number one hundred men.

The company in our station continued to traverse the country through woods and wilds, choosing their lots of future inheritance, until the month of July, when I returned home to my father's residence in North Carolina, and have not seen Kentucky since, which I have often regretted.

I have been often solicited to make a publication of this adventure, but still declined. Until late, there appears something like it in the newspapers, which is not correct.

I therefore thought it incumbent on me, as one of the company, and in possession of all the facts, to make this statement, and give it publicity, which I know to be truth by hard experience; and perhaps I may be the last solitary individual of that number left to give a correct relation of that adventure.

† James Harrod, the founder of Harrodstown or Harrodsburg as now called.

ARTICLE III.

Natural History:—Birds of Illinois.*

To *his Excellency* JOEL E. MATTESON,
Governor of Illinois:

SIR: Soon after the organization of the State geological survey, the members of the corps under my direction were requested to take note of such facts in relation to the different objects of natural history, within the limits of the State, as might, incidentally, come under their

* We are indebted to D. J. G. Norwood, State Geologist of Illinois, for the following list of Birds in that State. We copy from the "Ills. State Gazette."

notice; so far as it could be done without interfering with their respective duties.

In the prosecution of the field work of the survey, daily, almost hourly, opportunities are afforded for the observation of interesting and valuable facts in the different branches of natural history; and these can be noted, and even collections made, without encroaching, in the slightest degree, on the time which ought to be devoted to the survey.

However humble such contributions may seem, when compared with the labors of naturalists in other States, where regular corps of scientific men, with ample appropriations, have been organized in connection with their geological surveys, still, it is believed they can not fail to be interesting to the lovers and cultivators of science generally, and valuable to our citizens at home, whose interests are quite as much involved in the things which live and grow upon the soil and in the waters around them as in the crust of rocks which supports them.

It is a fact, familiar to every observer, learned or unlearned, that the different kingdoms of nature illustrate one another. Describe to any well informed farmer the character of the soil of any particular section of country, and he will tell you the kind of natural vegetation which clothes it, and the agricultural crops best suited to it in its natural state: or describe the vegetation, and he will tell you the kind of soil on which it grows and thrives. I say any *well informed* farmer —by which I mean those who *observe* what is around them. I have met, in the log cabins of our so-called "Egypt," with men who, probably, could not write their own names, but who knew more about the natural history of their district, and the capabilities of its soils, than four-fifths of those who are far above them in the scale of what is commonly called educated men — those who learn a fact, but never observe it. If these farmers had been educated — had received all the advantages to be derived in some of the older States from their system of common schools—or even had had the advantage, in boyhood, of the old fashioned "three months winter schooling, and nine months ploughing, sowing, hoeing and harvesting," how much more available would their present knowledge be to them!

It is as much, then, to excite a desire for knowledge among the people of the State, particularly its youth, and to stimulate them to the acquisition of valuable facts in every department of natural history, that these contributions are offered, as for the information they may afford to professed naturalists.

The first of these contributions is now offered in the following catalogue of the *Birds* of the State, by Mr. Henry Pratten, whose extensive acquisitions in several branches of science, made while engaged daily in the ordinary vocations of life, may be emulated by every one having an occasional hour to spare from their common pursuits.

It may be well to state, that in the preparation of this catalogue no expense has been incurred by the State — and such will be the case in relation to such other contributions in different departments of natural history as may be offered by other members of the corps.

At as early a date as practicable, a catalogue of our *Forest Trees* will be offered for your consideration.

I have the honor to be, with great respect, your ob't sarv't.

J. G. Norwood, State Geologist.

Springfield, Jan. 16, 1854.

To J. G. Norwood, State Geologist:

Sir: The following catalogue of the birds of the State is, by no means, a complete one. With the exception of a few of the water birds, which were shot on the Ohio river, they were all obtained in the two counties of Wayne and Edwards.

Henry Pratten.

CATALOGUE OF THE BIRDS OF ILLINOIS,

By Henry Pratten,

Assistant in the State Geological Survey.

LAND BIRDS.

ORDER I. RAPACES. *Temminck.*

BIRDS OF PREY.

Family I. Vulturinae. Vultures.

Genus Cathartes. *Illiger.*

1. Turkey Buzzard, Cathartes Aura—Linne.

Family II. Falconidae.

Genus Aquila. *Brisson.*

2. Golden Eagle, Aquila Chrysaetos—Willoughby, Richardson & Swainson; Falco Chrysaetos—Linne. Wayne co.

Genus Haliaetus. *Savigne.*

3. Bald Eagle, Hallaetus Leucocephalus—Aud.; Falco Leucocephalus—Linne; Aquila Leucocephala—Richardson & Swainson.

Genus Pandion. *Savigne.*

4. Fish Hawk, Pandion Haliaetus—Selby, Wilson, Audubon. Wabash river.

Genus Falco. *Linne.*

5. Peregrine or Wandering Falcon, Falco Peregrinus—Gmelin, Richardson & Swainson, Nutt., Audubon. Wayne co.
6. Pigeon Hawk, Falco Columbarius — Linnæus, Bonaparte, Rich. & Swainson; F. Æsalon—Swa. Wayne co.
7. Sparrow Hawk, Falco Spervarius—Linne.

Genus Buteo. *Bechstein.*

8. Rough-legged Hawk, Buteo Lagopus—Wilson; Falco Niger—Wilson; F. Lagopus—Bonap., Rich. & Swainson.; F. Sancti Johannes—Bonap.; Buteo Lagopus—Audubon. Wayne co.
9. Red-tailed Hawk—Buteo Borealis—Gmelin, Rich. & Swains.; Falco Leverianus—Wilson; Buteo Borealis—Audubon. Edwards county.

GENUS ICTINIA. *Vieillot.*

10. Mississippi Kite, Ictinia Plumbea—Latham; Falco Mississippiensis—Wilson; F. Plumbeus—Bonaparte; Ictinia Plumbea—Audubon. Wayne co.

GENUS NAUCLERUS. *Vigors.*

11. Swallow Tailed Hawk, Nauclerus Fulcatus—Vigors; Falco Furcatus—Linne., Wilson, Audubon; Nauclerus Furcatus—Audubon. Wayne county.

GENUS ASTUR. *Cuvier.*

12. Cooper's Hawk. Astur Cooperi—Bonaparte; Falco Stanleii—Aud.; Astur Cooperi—Aud. Wayne co.
13. Sharp Shinned Hawk, Astur Fuscus—Gmelin; Falco Pennsylvanicus—Wilson; Falco Velox—Wilson, Bonap.; Accipiter Pennsylvanicus—Rich. & Swainson; Astur Fuscus—Aud.
14. Winter Hawk, Astur Hyemalis—Bonap. Wayne co.

GENUS CIRCUS. *Bechstein.*

15. Harrier or Marsh Hawk, Circus Cyaneus—Linne., Falco Cyaneus—Linne., Bonap., Nutt., Aud.; Buteo Cyaneus—Rich. & Swainson; Circus Cyaneus—Aud.

Family Strigidae. Owls.

GENUS SURNIA.

16. Snowy Owl, Surnia Nyctea—Linne.; Stryx Nyctea—Bonap., Nutt., Aud.; Surnia Nyctea—Aud.

GENUS SYRNIUM. *Cuvier.*

17. Barred Owl, Syrnium Nebulosum—Linne.

GENUS OTUS. *Cuvier.*

18. Short-cared Owl, Otus Brachyotus—Linne; Stryx Brachyotus—Bonap., Nutt., Aud.; Otus Brachyotus—Aud.

GENUS BUBO. *Cuvier.*

19. Great-horned Owl, Bubo Virginiana—Gmelin; Stryx Virginiana—Bonap., Nutt., Aud.; Bubo Virginiana—Aud.
20. Mottled Owl, Bubo Asio—Linne; Stryx Asio—Nutt., Aud.; Bubo Asio—Aud.

ORDER II. PASSERES.

Family I. Caprimulgidae.

GENUS CAPRIMULGUS. *Linnaeus.*

21. Whip-poor-Will, Caprimulgus Vociferus—Wilson.

GENUS CHORDEILES. *Swainson.*

22. Night Hawk, Chordeiles Virginianus—Wilson, Bonaparte—Richardson & Swainson; Chordeilis Virginianus—Audubon.

Family II. Hirundinidae. Vigors.

GENUS 1. CYPSELUS. *Linne.*

23. Chimney Swallow, Cypselus Pelasgius—Linne., Bon., Nutt., Aud.; Chactura Pelasgia—Audubon.

GENUS 2. HIRUNDO. *Linne.*

24. Purple Martin, Hirundo Purpurea—Linne.
25. White-bellied Swallow, Hirundo Bicolor—Vieiliot.

26. Cliff Swallow, Hirundo Fulva—Vieillot. Wayne co.
27. Barn Swallow, Hirundo Rustica—Linn.; H. Rustica—Aud.; H. Americana—Richardson & Swainson.
28. Bank Swallow, Hirundo Riparia—Linn.

Family III. Alcyonidae. Vigors.

GENUS ALCEDO. *Linn.*

29. Belted Kingfisher, Alcedo Alcyon—Linn.

Family IV. Muscicapidae. Vigors.

GENUS MUSCICAPA.—*Flycatchers.*

30. King Bird, Muscicapa Tyrannus—Linn.
31. Crested Flycatcher, Muscicapa Crinita—Linn.
32. Pewit Flycatcher, Muscicapa Fusca—Gmelin.
33. Wood Pewee, Muscicapa Virens—Linn.
34. Redstart, Muscicapa Ruticilla—Linn.
35. Phoebe, Muscicapa Phoebe—Latham.
36. Small Pewee, Muscicapa Acadica—Gmelin.
37. Selby's Flycatcher, Muscicapa Selbii—Nutall. Edwards co.

GENUS CULICIVORA. *Swainson.*

38. Blue Grey Flycatcher, Culicivora Caerulea—Latham; Muscicapa Cacrulea—Latham, Nuttal; Sylvia Caerulea—Bonap.; Culicivora Caerulea—Audubon. Edwards county.

Family 5. Laniadae. Vigors.

GENUS LANIUS.—*Shrike.*

39. Great American Shrike or Butcher Bird, Lanius Borealis—Vieillot, Richardson & Swainson, Nuttal; Lanius Septentrionalis—Bonaparte; L. Excubitor—Audubon; L. Borealis—Audubon.

Family 1 I. Merulidae. Vigors.

GENUS TURDUS.—THRUSH.

40. Robin, Turdus Migratorius—Linn.; Merula Migratorius—Richardson & Swainson.
41. Wood Trush, Turdus Mustelinus—Gmelin.
42. Wilson's Trush, Turdus Wilsonii—Bonaparte.
43. Hermit Trush, Turdus Solitarius—Wilson.

GENUS ORPHEUS. *Swainson.*

44. Mocking Bird, Orpheus Polyglottus—Bonap.
45. Cat Bird, Orpheus Fellvox, Bon.; Orpheus Carolinensis—Aud.
46. Brown Thrush, Orpheus Rufus—Linn.

GENUS SEIURUS. *Swainson.*

Wagtail Thrushes.

47. Golden Crowned Thrush, Seiurus Aurocapillus—Nutt., Aud., and others. Edwards county.
48. Water Thrush, Seiurus Novaeboracensis — Gmelin; Turdus Aquaticus—Aud.; Seiurus Aquaticus—Rich and Swainson.

GENUS ANTHUS. *Bechstein.*

49. Brown Lark, Anthus Ludovicianus—Lichtenstein; A. Spinoletta—Bonap.; A. Pipiens—Aud., A. Ludovicianus—Aud.

Family Sylviadae. Vigors.
Warblers.

GENUS MYODIOCTES. *Audubon.*

50. Hooded Warbler, Myodioctes Mitrata—Bonap.; Sylvia Mitrata —Nuttal. Edwards county.
51. Canada Warbler, Myodioctes Pardalina—Bonap.; Muscicapa Canadensis—Audubon; Myodioctes Canadensis—Audubon.
52. Kentucky Warbler, Myodioctes Formosa—Benap.; Sylvia Formosa—Audubon; Myodioctes Formosa—Audubon.

GENUS SYLVICOLA. *Swainson.*
G. SYLVIA. *Linne.*

53. Yellow Crowned Warbler, Sylvicola Coronata—Wilson; Sylvia Coronata—Bonaparte, Wilson, Nuttal, Audubon; Sylvicola Coronata—Swainson, Audubon.
54. Black Poll Warbler, Sylvicola Striata—Latham; Sylvia Striata —Bonaparte, Nuttal, Aud.; Sylvicola Striata—Audubon, Rich. & Swainson.
55. Yellow Throated Warbler, Sylvicola Pensilis—Latham; Sylvia Pensilis—Bonaparte, Audubon; Sylvicola Pensilis—Audubon. Gallatin county.
56. Bay Breasted Warbler, Sylvicola Castanea—Wilson; Sylvia Castanea—Bonap., Nutt., Aud.; Sylvicola Castanea—Aud.
57. Chesnut-sided Warbler, Sylvicola Icterocephala—Latham; Sylvia Icterocephala—Bonap., Nutt., Aud.; Sylvicola Icterocephala—Audubon.
58. Pine Warbler, Sylvicola Pinus—Latham; Sylvia Pinus—Bonap. Nutt., Aud.; Sylvia Vigorsii—Aud., Sylvicola Pinus—Audubon. Edwards county.
59. Dlack-throated Green Warbler, Sylvicola Virens—Latham; Sylvia Virens—Bonap., Nutt., Aud.; Sylvicola Virens—Aud.
60. Blue Green Warbler, Sylvicola Rara—Bonap. Edwards co.
61. Blackburnian Warbler, Sylvicola Blackburnia—Latham; Sylvia Blackburnia—Bonap., Nutt., Aud.; Sylvicola Blackburnia—Aud.
62. Yellow Poll Warbler, Sylvicola Aestiva—Gmelin; Sylvia Aestiva—Bonap,, Nutt., Aud.; Sylvia Childsennii—Aud.; Sylvicola Aestiva—Audubon.
63. Red Poll Warbler, Sylvicola Petechea—Latham; Sylvia Petechea —Bonap., Nutt., Aud.; Sylvicola Petechea—Aud., Richardson & Swainson; Sylvia Palmarum—Bonaparte.
64. Yellow-back Warbler, Sylvicola Americana — Latham; Sylvia Americana—Wilson, Bonap., Aud.; Sylvicola Americana—Aud.
65. Black-throated Blue Warbler, Sylvicola Canadensis—Linn.; Sylvia Sphagnosa—Bonap., Nutt., Audub.; Sylvicola Canadensis—Audubon.
66. Black and Yellow Warbler, Sylvicola Maculosa—Lath.; Sylvia Maculosa—Bonap., Rich. & Swain., Nutt., Aud.; Sylvicola Maculosa—Audubon.
67. Prairie Warbler, Sylvicola Discolor—Vieillot; Sylvia Discolor—Bonap., Nutt., Aud.; Sylvicola Discolor—Aud.

GENUS TRICHAS. *Swainson.*

68. Maryland Yellow Throat, Trichas Personatus—Swainson; Sylvia Trichas—Aud., Nutt.; Sylvia Marylandica—Aud.

GENUS HELINAIA. *Audubon.*

69. Worm-eating Warbler, Helinaia Vermivora—Latham; Sylvia Vermivora—Bonap., Aud.; Helinaia Vermivora—Audub. Edwards county.
70. Prothonotary Warbler, Helinaia Protonotarius—Latham; Sylvia Protonotarius—Bonap., Nutt., Aud.; Helinaia Protonotarius—Aud. South Illinois.
71. Golden-winged Warbler, Helenaia Chrysoptera—Linn.; Sylvia Chrysoptera—Bonap. Nutt., Aud.; Helinaia Chrysoptera—Aud.
72. Tennessee Warbler, Helinaia Peregrina—Wilson; Sylvia Peregrina—Bonap., Nutt., Aud.; Helinaia Peregrina—Aud. South Illinois.
73. Blue-winged Yellow Warbler, Helinaia Solitaria—Wilson; Sylvia Solitaria—Bonap., Nutt., Aud.; Helinaia Solitaria—Aud.
74. Orange-crowned Warbler, Helinaia Celata—Say.; Sylvia Celata —Bonap., Nutt., Aud.; Helinaia Celata—Aud.; South Illinois.
75. Nashville Warbler, Helinaia Rubricapilla—Wilson; Sylvia Rubricapilla—Bonap., Nutt., Aud; Helinaia Rubricapilla—Aud.

GENUS MNIOTILTA. *Vieillot.*

76. Black and White Warbler, Mniotilta Varia—Wils.; Sylvia Varia —Bonap.; Certhia Varia—Aud.; Mniotilta Varia—Aud.

GENUS TROGLODYTES. *Cuvier.*

Wren.

77. Carolina Wren, Troglodytes Ludovicianus—Bonap.
78. House Wren, Troglodytes Aedon—Vieillot.
79. Winter Wren, Troglodytes Hyemalis; Vieillot; T. Europeus; Bon.,

GENUS REGULUS.

Crested Wrens.

80. American Regulus, Regulus Satrapa—Licht.; R. Cristatus—Bon. R. Tricolor—Nutt., Aud.; R. Satrapa—Aud.
81. Ruby Crowned Wren, Regulus Calendula—Linn.

GENUS SIALIA. *Swainson.*

82. Blue Bird, Sialia Wilsonii—Swains.; Saxicola Sialis—Bonaparte; Erythaca Wilsonii—Rich. & Swains.; Ampelis Sialis—Nuttal; Sylvia Sialis—Aud.; Sialis Wilsonii—Aud.

Family Certhiadae. Vigors.

GENUS CERTHIA. *Linn.*

Creepers.

83. Brown Creeper, Certhia Familiaris—Linn.

GENSUS PARUS. *Linne.*

Tit.

84. Tufted Tit, Parus Bicolor—Linn.
85. Black-cap Tit, Parus Atricappillus—Linn.

Family Vireoninae. Audubon.

GENUS VIREO. *Vieillot.*

86. Yellow-throated Vireo, Vireo Flavifrons—Vieillot.
87. Solitary Vireo, Vireo Solitarius—Vieillot.
88. White-eyed Vireo, Vireo Noveboracensis—Gmelin.
89. Warbling Vireo, Vireo Gilvus—Vieillot.
90. Red-eyed Vireo, Vireo Olivaceous—Linn.

Family Pipradae. Vigors.

GENUS ICTERIA. *Vieillot.*

91. Yellow-breasted Chat, Icteria Viridis—Gmelin.

GENUS BOMBYCILLA. *Brisson.*

Wax Wing.

92. Cedar Bird, Bombycilla Carolinensis—Brisson.

Family Fiingillidae. Finches.

GENUS FRINGILLA.

Finch.

93. Fox Colored Sparrow, Fringilla Iliaca—Bonap.
94. Song Sparrow, Fringilla Melodia—Wilson.
95. White-throated Sparrow, Fringilla Pennsylvanica—Lath.
96. White-crowned Finch, Fringilla Leucophrys—Gmelin.
97. Bay-winged Finch, Fringilla Graminea—Gmelin; Emberiza Graminea—Audubon.
98. Chipping Sparrow, Fringilla Socialis—Wilson; Emberiza Socialis—Audubon.
99. Tree Sparrow, Fringilla Canadensis—Lath: Emberiza Canadensis—Audubon.

GENUS NIPHAEA. *Aud.*

100. Snow Sparrow, Niphaea Hyemalis—Linne; Fringilla Hyemalis Bonap., Rich. & Swains.; Niphaea Hyemalis—Aud.

GENUS ERITHROSPIZA. *Bonap.*

101. Purple Finch, Erythrospiza Purpurea—Gmelin; Fringilla Purpurea—Gmelin; Bonap., Rich. & Swainson; Erythrospiza Purpurea—Aud.

GENUS FMBERIZA. *Linne.*

Buntiug.

102. Black-throated Bunting, Emberiza Americana — Gmelin; Fringilla Americana—Bonap., Nutt, Gmelin; Emberiza Americana, Audubon.
103. Savannah Sparrow, Emberiza Savanna—Bonap.; Fringilla Savanna—Bonap., Nutt.; Aud.; Emberiza Savanna—Aud.
104. Snow Bunting, Emberiza Nivalis—Linn.

GENUS SPIZA. *Bonap.*

105. Indigo Bird, Spiza Cyanea—Wilson; Fringilla Cyanea—Bonap., Nutt., Aud.; Spiza Cyanea—Aud.

GENUS CARDUELIS. *Cuv.*

Goldfinch.

106. American Goldfinch, Carduelis Tristis.

GENUS PIPILO. *Vieillot.*

Ground Finch.

107. Ground Robin, Pipilo Erythrophthalmus—Wilson.

GENUS COCCOTHRAUSTES. *Brisson.*

108. Cardinal Grosbeak, Coccothraustes Cardinalis—Linne; Fringilla Cardinalis—Bonap., Nutt., Aud.; Pitilus Cardinalis—Aud.

GENUS COCCOBORUS. *Swainson.*

109. Rose-breasted Grosbeak, Coccoborus Ludoviciana—Wilson; Tanagra Ludoviciana—Bonap., Nutt., Aud.; Coccoborus Ludovicina—Aud.

GENUS PYRANGA. *Vieillot.*

110. Summer Red Bird, Pyranga Aestiva—Gmelin; Tanagra Aestiva

—Bonap., Nutt., Aud.; Pyranga Aestiva—Aud.

111. Black-winged Red Bird, Pyranga Rubra—Wilson.

Family Sturnidae. Vigors.

Genus Icterus.

112. Baltimore Oriole, Icterus Baltimore—Linn.; Golden Robin.

113. Orchard Oriole, Icterus Spurius—Gmelin.

Genus Dolichonyx. *Swainson.*

114. Rice Bunting or Bob-o'-Link, Dolichonyx Oryzivora—Audub., Rich. & Swains.; Icterus Agripennis—Bonap., Nutt., And.

Genus Molothrus. *Swainson.*

115. Cow Blackbird, Molothrus Pecoris--Wils., Rich.&Swains.,Aud.

Genus Agelaius. *Swainson.*

116. Red-winged Blackbird, Agelaius Phoeniceus — Linn.; Icterus Phoeniceus — Wils., Rich. & Swains., Audub., Nutt.; Agelaius Phoeniceus—Rich. & Swains., Aud.

Genus Quiscalus. *Vieillot.*

117. Crow Blackbird, Quiscalus Versicolor—Vieillot.

118. Rusty Blackbird, Quiscalus Ferrugineus—Latham; ecophagus Ferrugineus—Rich. & Swains.

Genus Sturnella. *Vieillot.*

119. Meadow Lark, Sturnella Ludoviciana—Linn.; Sturnella Ludoviciana—Rich. & Swains.; Sturnus Ludovicianus—Ronap., Nutt.

Family Corvidae. Vigors.

Genus Corvus. *Linne.*

120. Raven, Corvus Corax—Linn.

121. Crow, Corvus Americanus—Aud. Corvus Corone--Bon., Rich. & Swains., Nutt.

Genus Garrulus. *Brisson.*

122. Blue Jay, Garrulus Christatus — Linn.; Corvus Christatus — Nutt., Bonap., Aud.; Garrulus Christatus --- Rich. & Swainson, Audubon.

Family Sittinae. Aud.

Genus Sitta.

123. White-breasted Nuthatch, Sitta Carolinensis—Linn.

Family Trochilidae. Vigors.

Genus Trochilus. Linn.

124. Northern Humming Bird, Trochilus Colubris—Linn.

Family Picidae. Vigors.

Genus Picus. *Linne.*

Woodpeckers.

125. Pileated Woodpecker, Picus Pileatus—Linn.

126. Hairy Woodpecker, Picus Villosus—Linn.

127. Downy Woodpecker, Picus Pubescens—Linn.

128. Yellow-bellied Woodpecker, Picus Varius—Linn.

129. Red-bellied Woodpecker, Picus Carolinus—Linn.

130. Red-headed Woodpecker, Picus Erythrocephalus—Wilson.

Genus Colaptes. *Swainson.*

131. Golden-winged Woodpecker, Colaptes Auratus—Linn.

Family Cuculidae. Vigors.

Genus Coccyzus. *Vieillot.*

132. Yellow-billed Cuckoo, Coccyzus Americanus—Linn.

133. Black-billed Cuckoo, Coccyzus Erythrophtalmus—Wils.

Family Psittacidae.

GENUS CENTURUS. *Ruhl.*

134. Parroquet, Centurus Carolinensis—Wils.; Psittacus Carolinensis—Bonap., Nutt., Aud.; Centurus Carolinensis—Aud.

GENUS ECTOPISTIS. *Swainson.*

135. Passenger Pigeon, Ectopistis Migratoria---Linn.; Columba Migratoria---Linn., Nutt., Bonap.; Ectopistis Migratoria---Swains., Aud.

136. Carolina Turtle Dove, Ectopistis Carolinensis---Linn.; Columba Carolinensis---Linn.; Rich. & Swains., Aud.; Ectopistis Carolinensis---Swains., Aud.

ORDER III. GALLINAE.

Family Fasianidae.

GENUS MELEAGRIS. *Linne.*

137. Wild Turkey, Meleagris Gallopavo---Linn.

Family Tetraonidae. Vigors.

GENUS ORTYX. *Stephens.*

138. American Quail, Ortyx Virginianus--Linn.; Perdix Virginianus ---Bonap.

GENUS TETRAO. *Linn.*

Grouse.

139. Ruffled Grouse, Tetrao Umbellus--Linn.; Common Pheasant.

140. Pinnated Grouse, Tetrao Cupido--Linn.; Prairie Hen.

WATER BIRDS.

ORDER IV. GRALLAE.

Family Rallidae. Vigors.

GENUS GALLINULA. *Brisson.*

141. Water Hen, Gollinula Chloropus--Linn. Ohio river.

GENUS FULICA. *Linn.*

142. American Coot, Fulica Americana--Gmelin.

GENUS ORTYGOMETRA. *Leach.*

143. Yellow-breasted Rail, Octygometra Noveboracensis--- Latham; Rallus Noveboracensis--Bonap., Rich. & Swains., Aud.; Octygometreta Noveboracensis--Aud.

Family Gruidae. Vigors.

GENUS GRUS. *Brisson.*

144. Whooping Crane, Grus Americana--Foster.

GENUS ARDEA. *Linne.*

145. American Bittern, Ardea Lentiginosa---Swains.; Ardea Minor--Bonap.

146. Green Heron, Ardea Virescens--Linn.

147. Great Blue Heron, Ardea Herodias--Linn.

148. Great American Egret--Ardea Egretta--Gmelin.

149. Snowy Heron, Ardea Candidissima--Gmelin.

Family Charadriadae. Vigors.

GENUS CHARADRIUS. *Linne.*

150. Black-bellied Plover, Charadrius Helveticus---Linn.; Vanellus Melanogaster--Rich. & Swains.

151. Golden Plover, Charadrius Marmoratus--Wagler.

152. Keldeer Plover, Charadrius Vociferus--Linn.

153. American Ring Plover, Charadrius Semipalmatus--Bonap.

Family Scolopacidae.

GENUS TRINGA. *Linne.*

154. Semipalmated Sandpiper, Tringa Semipalmata--Wilson.
155. Pectoral Sandpiper, Tringa Pectoralis--Bonap.

GENUS TOTANUS. *Bechstein.*

156. Bartram's Tatler, Totanus Bartramius--Wilson.
157. Willet, Totanus Semipalmatus- Latham.
158. Spotted Tatler, Totanus Macularius--Wilson.
159. Tell Tale, Totanus Vociferus--Wils.; Tot. Melanoleucus---Bon.
160. Yellow-shanks Tatler, Totanus Flavipes--Latham.
161. Solitary Tatler, Totanus Solitarius--Wilson.

GENUS SCOLOPAX. *Linne.*

162. Common Snipe, Scolopax Wilsonii--Temminck.
163. Red-breasted Snipe, Scolopax Noveboracencis--Wilson.

GENUS MICROPTERA.

164. American Woodcock, Microptera Americana---Aud.; Scolopax Minor--Bonap., Rusticola Minor--Vieil., Nutt.

GENUS NUMENIUS*i* *Brisson.*

165. Long-billed Curlew, Numenius Longirostris--Wilson.

ORDER V. NATATORES. *Temm.*

Family Anatidae. Vigors.

GENUS ANSER. *Brisson.*

166. Wild Goose, Anser Canadensis--Willoughby.

GENUS ANAS. *Linne.*

167. Mallard Duck, Anas Boschas--Linn.
168. American Widgeon, Anas Americana—Gmelin; Mareca Americana—Rich. & Swains.
169 Pintail Duck, Anas Acuta--Linn.; Anas Caudacuta--Rich.&Swai.
170. Wood Duck, Anas Sponsa--Linn.; Dendronessa Sponsa--- Rich. & Swains.
171. Green Winged Teal, Anas Carolinensis--Gmelin; Anas Crecca--Bonap.
172. Blue Winged Teal, Anas Discors--Linn.
173. Shoveller Duck, Anas Clypeata--Linn.

GENUS FULIGULA. *Sea Ducks.*

174. Scaup Duck, Fuligula Marila--Linn.
175. Ring-necked Duck, Fuligula Rufitorques--Bonap.
176. Golden-eye Duck, Fuligula Clangula--Linn.; Clangula Vulgaris
177. Ruffle-headed Duck, Fuligula Albeola--Linn.

GENUS MERGUS. *Merganser.*

178. Shell Drake, Mergus Merganser--Linn.
179. Hooded Goosander, Mergas Cuculatus--Linn.

Family Laridae. Vigors.

GENUS STERNA. *Linne.*

Sea Swallows.

180. Common Tern, Sterna Hirundo--Linn.
181. Least Tern or Sea Swallow, Sterna Minuta--Linn.

GENUS LARUS. *Linne.*

Gulls.

182. Bonaparte's Gull, Larus Bonapartii--Rich.; Larus Capistratus--Bonap.; Larus Bonapartii--Rich. & Swains., Nutt., Aud.
183. Herring Gull, Larus Argentatus--Brunnich.

Family Colymbidae. Vigors.

GENUS COLUMBUS. *Linne,*

184. Loon, Colymbus Glacialis--Linn.

ARTICLE IV.

[From the American Polytechnic Journal.]

Artificial Fecundation of Flowers.

BY PROFESSOR CHARLES G. PAGE, M. D.

In the course of many thousand experiments in cross-fertilization, I have noticed some interesting phenomena which seem to open up a new field of investigation and practice. In our rapid progress in the production of new varieties of flowers and fruits we see no terminus, and our enthusiasm kindles at the ever-widening circles, pushing the limits farther and farther out upon each new acquisition. But in our race for novelties let us have a care to the perfection of that which is old, and the advantages will proclaim themselves sooner or later in the production of that which is new. Certain it is that there is at this time rather a tendency to innovate than to improve, and perhaps too much really in the former and too little in the latter. These remarks are not intended to discourage the production of new fruits, but are designed chiefly to direct attention to the improvement of our established fruits. Pruning, disbudding, thinning out, ringing, girdling, bending down, root pruning, acupuncturation, seasonable waterings and manurings, and good culture in any way, will give us large fruits and prize specimens; but I am led to believe from certain observations that the importance of fecundation in this connection has been overlooked, and that this may yet (although at present very difficult) become a studied branch of horticulture. To a certain extent the importance of fecundation has not been as clearly recognized in the vegetable as in the animal kingdom, and between the two orders of organized life interesting analogies have been traced in respect to the reproductive functions. But there is something beyond the *reproductive* functions to be considered in regard to fruits. In order to be clearly understood as to the meaning of the term *fruit*, I mean broadly the *pericarp*, and by the *pericarp* in reference to esculent fruits, I mean the part which is eaten, with or without the seeds. It is the part which envelops, sustains, or is surrounded by the seeds. It is the edible pulp; in fine, it is the sarcocarp of the pericarp, and if botanical distinctions fail, we will leave it to the sense of taste to decide what fruit is. The laws of reproduction in the animal and vegetable kingdoms present some interesting analogies, which I do not purpose now to trace out to the full extent. Oviparous animals will deposit their eggs without fecundation, but such eggs will not hatch. There is no exception to this law for animals. In the lower orders, such as polypus and tœnia, a piece of the animal will produce a new animal, as a cutting of a plant will producte a new plant. The seeds of plants correspond to the eggs of animals, and are governed by the same general law of reproduction, viz., that fecundation is essential to reproduction. This law is relaxed, however, for some plants, as there are plants, such as the common fig and others, which bear fruit and ripen productive seed without fecundation, although for the most part fecundation is essential to productive seeds. It plays also another important part, which my experiments serve to elucidate. For the sake of illustration

I will select a particular flower, upon which my observations have been most extensive—that flower is the *Petunia*, which offers great facilities for observations upon the sexual characters and functions. It is well understood that in artificial cross-fertilizing, in order to prevent self-fecundation, we emasculate the flower from which we wish to obtain the seeds for new varieties; that is, we remove the anthers from that flower, and in the proper season apply to the stigma the pollen from some other distinct flower. Now it happens that with many flowers the self-fecundation takes place before the flower opens, in consequence of the early formation of pollen. Such flowers planted together in beds will never naturally cross-fertilize or produce new varieties, and hence it is that Nature seldom produces new varieties. I have observed that with a given variety of the petunia the corolla will be more apt to expand before the perfection of pollen when the plant receives the highest culture; so that the farther we digress from the normal condition of the plant, the greater the facility of accidental production of new varieties. This we see proved in many instances, where, after the production of one or two new varieties, a whole flood of changes is poured in upon us in a short time. In nearly every class of the multiplying varieties of florists' flowers of the present day, no credit attaches to the originators of new varieties, except that of industry, patience, and opportunity. Verbenas, geraniums, etc., are planted in patches, and seeds are collected and sown at a venture, and the few out of hundreds are saved as the results of chance fertilization. The facility of self-production of new varieties after one digression I have seen beautifully exemplified in the portulacca. We had for many years the crimson, the yellow, and the white, all well "pronounced" varieties, which, for several years, stubbornly resisted the efforts to cross by artificial means. Four years since I obtained a cross between the crimson and yellow, and got but one such plant from experiments upon several hundred flowers. It was a beautifully marked variety, bearing a yellow flower with crimson bands and stripes; and no sooner was this variety bedded with the normal kinds than varieties began to multiply without the interference of art. I now count from twenty to thirty varieties of *portulacca*. The *petunia* is less accommodating—promiscuous planting and hap-hazard collecting and sowing at a venture has produced probably some hundreds of varieties, but not sufficiently pronounced to demand separate names. One reason is, that with the petunia the pollen will often shed before the corolla opens, and self-impregnation excludes superfetation from other flowers. In this case we must force open the flower and take off the anthers before the pollen sheds, and apply other pollen immediately, or wait till the germ is in the conceiving condition. Petunias out of doors, or in the open ground, shed the pollen earlier than those under cover. Fortunately, however, I have several good varieties, which expand the corolla long before the pollen opens, and the whole operation of fertilizing is reduced to the utmost simplicity. The anthers, five in number, are removed with small forceps, and the pollen of other flowers applied to the stigma by means of a fine camel's hair brush, either immediately or whenever the pollen will adhere. With these prefatory remarks we come now to one of the chief points of this communication. When cross-fecundation has been effected, as soon as the corolla and style

wither, the seed-vessel is observed to swell more or less according to circumstances; sometimes it is much larger and sometimes smaller than the seed-vessel from self-impregnation. From repeated observations and trials I have found that for a given kind of petunia there are particular varieties, which (if I may use the term) *harmonize* with it. After applying the pollen from different varieties to separate flowers of one plant, I have found great differences in the size and development of the seed-vessels: some swell to a very great size, and others do not attain the normal size; that is, the size which would be producted by self-fecundation. The large seed-vessels are generally constant results from the union of the same varieties. In fine, it seems that for a given variety the size of its seed-vessels is governed principally by the nature of the variety whence the fertilizing pollen is derived. It must be borne in mind that the possibility of obtaining large seed-vessels at all, depends upon the character of the seed-bearing plant; for with some, especially the most improved varieties, such as *Enchantress*, and *Prince of Wales*, the seed-vessels rarely fill out, and are generally very small. The petunia very often bears double flowers, not double in the ordinary sense, but flowers of double size, containing two sets of organs, viz., two pistils, two germs, ten stamens, and ten lobes of the corolla to correspond. On fertilizing these two flowers from separate sources there is generally a marked difference in the size of the two seed-vessels. We should naturally expect the best results from planting the seeds of the largest seed-vessels, and in some respects it is so, but as a general rule the best new varieties are produced from the smaller sizes. It is well known that the higher cultivated flowers and fruit are not good seed-bearers, and that their seeds are apt to produce degenerate kinds. Take the peach, for instance: seeds from the largest and best kinds, with the exception of some few kinds which are in this vicinity always propagated from seed, rarely produce good peaches. When General Jackson was president of the United States, some friend presented him with a large basket of peaches, of extraordinary size and quality, probably the *cream* of some large orchard. Commodore Ap Catesby Jones, an enthusiast in horticulture, bespoke the seeds of those peaches for the purpose of planting them, and they were accordingly saved. He planted them, reared all the trees carefully, and when he came to test the fruit, it was all worthless, and the trees were all ordered to be destroyed.

I have had some similar experience, although on one occasion I raised fine fruit from the seed of a very large peach. I purchased the peach at a confectioner's in New-York for eighteen and three-quarter cents, in the year 1840, and from it raised a fine large peach, which I call the *three-fip peach*. The tree is now in its prime. But to recur to the petunia.

If the largest seed-vessels are not the most productive of distinct varieties of flowers, what advantage shall we take of the fact? In flowers we seek varieties, and the more distinct the better: in fruits we seek just the condition we have noticed in the large-sized seed-vessels; and although I have recited above a variety of modes of swelling fruits, I am induced to believe there is one mode beyond any other for this purpose, and that is by proper cross-fertilizing.* Take

* The swelling of the petunia seed-vessels is precisely similar to the swelling of fruits, such as the strawbery, peach, melons, etc.

a peach-tree of good-sized fruit and watch its development: we shall find a very marked difference in the fruit as to size and flavor; some very large, some very small, and the greater part intermediate. The circumstances of culture, air, light etc., seem to be the same for all; but what occasions here and there a monstrous fruit? I am inclined to attribute it to accidental cross-fertilization, and one of the *harmonizing* class or character just referred to.

It seems to be the case with all our fruits, and where no artificial means have been resorted to for the purpose of swelling the fruit, among all the speculations as to the cause of it, *crossing* is never thought of. Take the strawberry-patch: with apparently equal soil and culture, here and there is a monstrous fruit, and often the plant bearing such fruit is set apart as a breeder, when behold the progeny is no better thon those of the original stock. Culture in this and every case will do much, but proper fecundation may do as much more. Take the melon-patch: you notice somewhere a large melon, and on tasting it you are disappointed to find the mixed flavor of a cucumber with a nutmeg, cantelope or muskmelon. Again, you see a round smooth-looking watermelon, and, on cutting it, it is half citron; again, you find a long watermelon with a nipple or half-formed neck, you taste it and it is as bitter as a gourd.

The case of the melons supports the views I have put forth. The change in the character of the fruit, both as to size and flavor, was not last year's doings—it was not the production of a new variety by cross-fertilization showing itself in the seeds—it was the immediate effect of fecundation upon the fruit; for the same vine which bore the fruit with the gourd-taste, will bear also a good watermelon. Every skilful gardener knows the necessity of keeping his vines remote from different kinds, but all the while is looking more to the effect upon his seeds than upon his fruit. If you have a superior kind of melon, self-impregnation is the safest course for obtaining identical and good fruits; but there is a field open before us for the study of what kinds are the best adapted to plant together in order to get size and desirable mixed qualities, not in the produce from the seed, but in the fruit it self as the immediate result from crossing. Is there not some one strawberry, which, when mixed with the Hovey seedling, will produce larger fruits than others?* Is it not the case that certain trees, such as peach, pear, and apple, modify the fruits to some extent upon the neighboring trees?

I will close these remarks by citing a case which seems to me to be explicable upon this supposition. Joshua Pierce, an experienced horticulturist of this city, has a genuine Seckel pear on his place, which is generaly so large as to be disputed, being frequently twice and three times the standard size. He is unable to account for it, but may it not be the *amours* of some neighboring pear-tree, as he cultivates pears largely?

Washington, D. C., Jan. 20, 1854.

* I have never yet raised a *large* Hovey seedling, though they have had the best of culture for three years. For two years they were kept by themselves, and the third year were beside a large patch of Slater's Alice Maud. My desire has been to procure a strawbery which did not require the trouble of "mixing in" staminate plants.

ARTICLE V.

Report on Funded Debt of the Country,

Of the Secretary of the Treasury in answer to a Resolution of the Senate calling for the Amounts of American Securities held in Europe and Foreign Countries, on the 30th June, 1853:

TREASURY DEPARTMENT, March 2, 1854.

SIR: The following resolution was adopted by the Senate on the 4th of April, 1853:

Resolved, That the Secretary of the Treasury be requested to procure, as far as practicable, and furnish the same to the Senate at the commencement of the next session of Congress, the following information, namely:

"The aggregate amount of Federal, State, City, County, Railroad, Canal and other Corporation Bonds, Stocks, or other evidences of debt, held in Europe or other foreign countries, on the 30th of June, 1853, specifying separately, so far as the same can be ascertained, the amount of each of the above descriptions of bonds and stocks."

In compliance with the above resolution, I have the honor to submit the accompanying documents:

A letter from the Register of the Treasury, dated February 27, 1854, giving the amount of federal stock outstanding on the 30th of June, 1853, and the amount estimated as then held by foreigners residing beyond the bounds of the United States.

A general statement of the amount of bonds of the several States, outstanding on the 30th of June, 1853, and of the amount thereof held by foreigners residing beyond the bounds of the United States, as well as could be ascertained, according to returns received at the Treasury Department, from the chief officers of the different States.

A table showing the amount of the State Bonds outstanding June 30, 1853, the amount then held by foreigners residing beyond the bounds of the United States, according to the estimates of Winslow, Lanier & Co., on the States marked with an asterisk, the amount of property held by various State Governments, exclusive of school funds according to the American Almanac for 1854, and the amount of real and personal estate subject to taxation in each State, according to the United States census returns for 1850.

A statement of the amount of bonds of cities, towns and counties, outstanding on the 30th of June, 1853, and of the amount thereof then held by foreigners residing beyond the limits of the United States, as far as could be ascertained according to returns made to the Treasury Department by the following cities, towns and counties, and including some reported by brokers.

A general statement of so many of the Banks as have made returns of the amount of capital paid in, and of the amount thereof held by foreigners on the 30th of June, 1853.

A general statement of so many Insurance Companies as have made returns to the Treasury Department, and of the amount of capital authorized, the amount paid in, and the amount thereof held by foreigners, as well as could be ascertained on or near June 30, 1853.

A general statement of so many Canal and Navigation Companies as have made returns to the Treasury Departments, of the amount of capital authorized, the amount paid in, and the amount thereof held by foreigners, and also of the amount of bonds outstanding, and the amount thereof held by foreigners June 30th, 1853.

A general statement of so many miscellaneous Companies as have made returns to the Treasury Department of the amount of their capital authorized, the amount paid in, and the amount thereof held by foreigners on the 30th, June, 1853.

A general summary (marked K) of the foregoing documents.

It will be seen by reference to K, taking Winslow, Lanier & Co's estimate as the criterion, that in June, 1853, the aggregate stocks and securities of the character set out in the table, held abroad, were $222,225,315.

The application of capital to railroads commenced in 1829, and to canals prior to that date; but we have no data from which we can state the amount of foreign indebtedness on those accounts. In 1829, the outstanding United States debt was about $58,400,000, a considerable part of which was then held abroad; and we know that a large amount of United States and other Bank Stocks was also held abroad, and it might be fair to estimate that the indebtedness of the same character, as in Table K, was as great in 1829 as it was in 1853; and that the annual interest and dividends to foreign holders of stocks and bonds have reached for the last twenty-four years about $13,000,000.

There is no data from which to make an aggregate statement of the capital that had been applied to canals, railroads, and the establishment of banks, insurance companies, &c., prior to 1829, and which, in connection with table K, would exhibit the amount applied to those objects since; nor is there any data from which to estimate the value which the application of capital to canals, railroads and banks, has given to the solid wealth of the country.

All of which is respectfully submitted.

Your obedient servant,

JAMES GUTHRIE, Secretary of the Treasury.

Hon. D. R. ATCHISON, President of the Senate.

GENERAL SUMMARY, JUNE 30, 1853—(Marked K.)

	Total.	Held by foreigners.
United States Stocks	$58,205,517	$27,000,000
State Stocks	190,718,221	72,931,507
113 Cities' and Town Bonds	79,352,149	16,462,322
347 Counties' Bonds	13,928,369	5,000,000
985 Banks' Stocks	266,725,955	6,688,996
75 Insurance Companies' Stocks	12,829,730	378,172
244 Railroad Companies' Stocks	309,893,967	8,244,025
244 Railroad Companies' Bonds	170,111,552	43,388,752
16 Canal and Navigat. Co's' Stock	35,888,918	554,700
16 Can. & Nav. Co's' Bonds	22,130,568	1,967,547
15 Miscellaneous Co's' Stocks	16,425,612	802,720
15 Miscellaneous Co's' Bonds	2,358,323	265,773
Total	$1,178,567,882	184,184,714

If the estimate of Winslow, Lanier & Co. be preferred as to the amount of State Stocks held by foreigners, $110,972,108 must be substituted in the second line of the second column, and the total will then be:

Aggregate of Stocks and Bonds	$1,178,567,882
Aggregate held by foreigners	222,225,315

SUMMARY OF RAILROADS. — From returns made, with a few exceptions, by their own officers:

222 Railroads, capital authorized	$380,201,100
Capital paid in	256,750,422
Capital held by foreigners	7,044,025
Bonds outstanding	143,958,868
Bonds held by foreigners	36,125,172
Total of Capital paid in Bonds outstanding	400,709,290
Total of Capital and Bonds held by foreigners	43,169,776

ADDENDA.—Returns from twenty-two other Railroad Companies, part taken from the *American Railroad Journal*, and part obtained from brokers:

Capital paid in	$53,143,545
Bonds outstanding	26,151,684

Supposing the proportion of capital stock and bonds held by foreigners in these Companies, to be the same as in the Companies from which returns have been directly received, we have the following results:

244 Companies, capital paid in	$309,893,967
Capital held by foreigners	8,025,890
Bonds outstanding	190,111,552
Bonds held by foreigners	43,888,752
Total of Capital paid in and Bonds outstanding	480,004,519
Total of Capital and Bonds held by foreigners	51,914,742

NOTE. — Owing to the extent of country over which they are spread, the number of Superintendents to whom they are entrusted, and the character of the works, it is very difficult to ascertain the number of miles of Railroads completed, and the number in progress at any given period.

In the volume prepared by Mr. Andrews, and communicated by the Secretary of the Treasury to the Senate, on the 25th of Aug., 1852, the number of miles in operation is stated to be 12,808¾, and in progress, 12,612. Total, 25,402¾ miles.

"At least $80,000,000 are," it is said in the same volume, "now annually required to carry forward works in progress, and to meet the demand of new ones that may arise. Of this sum, $50,000,000 are borrowed either of capitalists of this country or of Europe."

"Average costs of roads from Maine to Maryland, $40,000 per mile.

"Average costs of roads in other States, $30,000 per mile.—

Roads complet., 12,821¾ miles, at $30,000 p. m., $384,690,000
Roads in prog., 12,612 mil., at 20,000 p. m. 252,500,000

Total..... $637,190,000

It is believed that an extent of line equal to the whole number of miles now in operation, will be completed in three years from the present time, at which period the cost of our roads will equal the above sum.

According to the American Almanac for 1854, the railroads in operation in 1853 had an extent of 14,494½ miles, but in this total are included some roads which are but partially in operation.

Lippencott, Grambo & Co.'s new edition of the United States Gazetteer, contains a list of 523 roads; but as roads completed, roads in progress, and roads simply projected, are all mixed together, nothing conclusive can be gathered from it.

I.—ROADS, IN WHICH THE INTEREST ABROAD IS KNOWN.

	Paid in Capital.	Stock held by foreigners.	Bonds.	Bonds held by foreigners.
Reading.....	$7,316,000	$2,000,000	$9,353,000	$6,000,000
Erie.....	10,000,000	300,000	19,000,000	7,000,000
Western, Mass.	5,150,000	800,000	4,000,000	3,200,000
Central, Penn.	10,810,000	668,000	3,000,000	2,500,000
Camden&Amb.	3,000,000	.....	7,784,000	2,411,000
Oh. & Miss. East	1,500,000	.....	2,050,000	1,950,000
South Corolina.	4,185,000	.....	2,814,000	1,914,000
Central Illinois.	788,000	.....	3,172,000	1,216,000
Hudson River...	3,740,000	5,000	7,500,000	928,000
Baltim. & Ohio	13,118,000	300,000	5,677,000	765,000
Belvidere, N. J.	.....	.....	1,000,000	1,000,000

Eastern, Mass.	2,850,000	50,000	710,000	650,000
Raleigh & Wilm.	1,338,000	.....	685,000	685,000
Wilm. & Man'r.	.....	.....	800,000	150,000
Belville, Ill.....	100,000	.....	600,000	600,000
Milwaukee.....	800,000	.....	1,250,000	600,000
Clevel. & Col..	3,654,000	489,000	124,000	90,000
Ashtabula	1,486,000	48,000	805,000	500,000
Harlem.....	8,000,000	350,000	1,400,000	150,000
N. Albany.....	1,850,000	.....	3,000,000	500,000
Madison	1,650,000	200,000	600,000	450,000
Harrisburg.....	830,000	.....	713,000	410,000
St. Lawrence...	1,814,000	300,000	1,000,000	200,000
Richm. & Fred.	997,000	32,000	600,000	324,080
Kalamazoo	300,000	90,000	300,000	250,000
Central, Ind....	.....	.....	900,000	300,000
Indianap. & Bell	712,000	.....	715,000	238,000
Galena & Chic.	1,913,000	75,000	550,000	.....
Michigan Centr	4,300,000	.....	4,000,000	965,000
Seaboard.....	419,000	.....	600,000	200,000
Louisv.&Frankf	853,000	.....	316,000	200,000
Philad. & Wilm.	3,850,000	132,000	2,161,000	61,000
Mansfield	1,268,000	.....	1,894,000	160,000
Saratog.&Wash	899,000	150,000	940,000	.....
Little Miami....	2,655,000	176,000	249,000	.....
Boston&Worcst	4,500,000	117,000	425,000	.....
Mount Carbon..	233,000	115,000	.....	.....
Connectic.River	1,591,000	103,000	220,000	10,000
Eaton &Hamilt.	250,000	.....	654,000	130,000
GrandJunc.Mass.	850,000	.....	504,000	104,000
Calais.....	100,000	44,000	100,000	56,000
Boston&Conc...	1,649,000	.....	622,000	100,000
Central, N. J..	1,500,000	.....	1,500,000	100,000
Hartf.&N. Hav.	2,350,000	50,000	800,000	99,000
Buff. & N.Falls	564,000	15,000	69,000	.....
Portsm.& Conc.	370,000	.....	350,000	62,000
Columb. &Piqua	600,000	.....	1,000,000	68,000
Columb.&Xenia	1,285,000	15,000	93,000	.....
Delaw.&Lakaw.	1,438,000	52,000	900,000	.....
MillCr.&Mine H.	234,000	60,000	.....	.....
M. Hill &S.Hav.	1,000,000	42,000	.....	.....
Georgia	3,987,000	33,000	743,000	16,000
Macon	1,214,000	20,000	160,000	.....
Cheshire.....	2,219,000	2,000	734,000	20,000
Boston & Lowell	1,830,000	20,000	.....	.....
Nashua.....	1,140,000	24,000	182,000	.....
Boston & Maine	4,155,000	12,000	150,000	.....
Bost. & Provid.	3,160,000	9,000	390,000	.....
Sarat. &Schenec.	300,000	10,000	83,000	.....

N.J. Transport.	2,750,000	30,000	251,000	.....
Cumberl. Valley	1,176,000	3,000	24,000	.....
Rich. & Petersb.	1,472,000	.....	167,000	59,000
Alaba. & Tenn.	574,000	.....	500,000	500,000
Mexican Gulf...	.....	.....	15,000	15,000
Carrollton.....	600,000	30,000	50,000	.....
Woodville.....	881,000	29,000	.....	.....
EastTen. & Geo.	882,000	.....	233,000	48,000
Ohio Central...	1,680,000	10,000	2,050,000	.....
Tot. 67 roads	$147,855,000	7,044,000	103,234,000	36,125,000

Total Stock paid and Bonds issued.....$251,119,000

II.—ROADS IN WHICH NO FOREIGN INTEREST IS REPORTED.

	Capital paid and Bonds outstanding.		Capital paid and Bonds outstanding.
Portland and Saco	$1,457,000	Oswego	551,000
Machias,	100,000	Lake Ontario	150,000
Kennebec,	1,246,000	Cayuga	1,087,000
Androscoggin	1,963,000	State Line	2,100,000
Bangor,	135,000	Phila. and Trenton	1,200,000
Vermont Valley	1,005,000	Mount Carbon	178,000
Western Vermont	630,000	Lykens Valley	250,000
Rutland	1,350,000	Alleghany Valley	200,000
Vermont and Massach.	3,229,000	Sunbury and Erie	140,000
Passumpsic	1,754,000	North East	705,000
White Mountain	300,000	Franklin Canal	566,000
Wilton	225,000	Williamsport	1,300,000
Contocook	335,000	Steubenville	700,000
Great Falls	163,000	Blossburg	400,000
Concord	1,485,000	Frenchtown	816,000
Northern	2,768,000	Washington Branch	1,650,000
Cocheco	607,000	Annapolis	421,000
Nashua and Lowell	600,000	Baltimore and Susqueh.	1,635,000
New Bedford	500,000	Central Virginia	1,952,000
Medway	29,000	Southside	2,160,000
West Stockbridge	40,000	Danville and Richmond	200,000
Providence & Worcest.	1,757,000	Appomattox	278,000
Warren	17,000	Petersburg	769,000
Housatonic	2,300,000	Greenville and Roanoke	200,000
Naugatuck	1,440,000	Manassas Gap	803,000
Danbury	885,000	Southern, Miss.	445,000
Fishkill	2,131,000	Chattanooga	2,854,000
N. London and Palmer	1,393,000	McMinville	302,000
Northampton	1,422,000	Winchester, Tenn	70,000
N. Haven and N. London	1,400,000	Lexington and Frankf.	529,000
Norwich	2,695,000	Danville	850,000
Long Island	3,618,000	*Maysville	1,402,000
Rensselaer	760,000	Northern Cross, Ill	1,395,000
Elmira	1,231,000	Aurora	1,000,000
Albany and Susquehanna	143,000	St. Charles	150,000
Binghamton	280,000	Rock Island	3,200,000

	Capital paid and Bonds outstanding.
Alton and Terre Haute	2,215,000
Military Tract	1,200,000
Peru	900,000
Berskshire	600,000
Salem	1,043,000
South Shore	384,000
Fitchburg and Worc.	293,000
Lex. and W. Cambridge	241,000
Fairhaven	98,000
Stockbridge	443,000
Norfolk County	1,157,000
Fitchburg	3.540.000
Cape Cod	737,000
Lawrence	300,000
Fall River	1,050,000
Saugus	123,000
Pittsfield	450,000
Stoughton	85,000
Harvaid	26,000
Old Colony	2,292,000
Newburyport	219,000
Genesee Valley	347,000
*Watertown and Rome	1,791,000
*Hornellsville	1,963,000
Corning	2,043,000
*N. Haven and N.York	3,983,000
Hudson and Berkshire	555,000
Plattsburg	382,000
N. York & Providence	1,897,000
Patterson	665,000
Mount Holly	90,000
Morris	1,151,000
Morristown	1,164,000
Chesnut Hill	90,000
Chester Valley	1,100,000
Lebanon and Lancaster	4,000,000
Lehigh Valley	465,000
York and Cumberland	927,000
Hanover Branch	156,000
Strasburg	36,000
Maryland Line	200,000
Wrightsville	417,000
West Chester	132,000
Alexandria	1,740,000
Virginia and Tennessee	2,626,000
Roanoke Valley	178,000
North Carolina	1,000,000
Gaston	975,000
Charlotte	1,460,000
King's Mountain	200,000
Columbia and Green	1,500,000
Laurens	186,000
Memphis end Charlest.	1,014,000
Central Georgia	3,927,000
South Western	1,157,000
Rome Branch	126,000
Atlanta and La Grange	800,000
Washington Branch, Ga.	156,000
Girard	300,000
Brunswick	200,000
Tallahassee	200,000
Montgomery	1,316,000
Pontchartrain	500,000
Clinton, La.	752,000
Richm.and Terre Haute	1,369,000
*La Fayette	1,400,000
Evansville	666,000
Cleveland and Zanesv.	1,001,000
Dayton and Cincinnati	300,000
Cinc., Ham. & Dayton	2,600,000
Greenville	616,000
*Springfield	1,170,000
Mahoning	400,000
Iron	151,000
Hocking	675,000
*Dayton and Michigan	1,790,000
Ohio and Miss. West	2,097,000
Total, 155 roads, Stock	$108,865,000
Bonds	40,725,000
Total	149,590,000

* These are marked in official report, amount of foreign interest "not known." All others in this table are marked against foreign column, "none."

III.—ROADS NOT REPORTED TO DEPARTMENT, BUT INFORMALLY ADDED BY SECRETARY.

Cumberland, Me.	$626,000	Michigan Southern	$5,129,000
Manchester, N. H.	717,000	Covington and Lexingt.	3,050,000
Vermont Central	11,000,000	Fort Wahne and Chic.	2,600,000
Vermont and Canada	1,500,000	Crawfordville	425,000
Taunton, Mass.	250,000	Marietta	5,500,000
Central, New York	24,970,000	Columbia & Shelbyville	325,000
Ogdensburg	4,550,000	Steubenville and Ind.	2,800,000
Troy and Rutland	337,000	Ohio and Pennsylvania	4,500,000
Troy and Boston	1,130,000	Stonington	467,000
Potomac, Va.	300,000		
Cleveland and Pittsburg	2,610,000	Total, 22 roads	$79,295,000
Mad River	4,154,000	In Stocks	53,143,000
Toledo and Norwalk	1,352,000	In Bonds	26,152,000

ARTICLE VI.

Valley of the Ohio.

BY MANN BUTLER, ESQ.

Continued from page 383, vol. XI. No. 5.

MISSION OF CLARK AND JONES TO VIRGINIA.—GUNPOWDER OBTAINED FOR KENTUCKI. — SKETCH OF GEORGE ROGERS CLARK. — ESTABLISHMENT OF KENTUCKY COUNTY.

A strict regard to chronological order would have presented the reader with the *particulars* of the mission of *Clark* and *Jones* to Virginia, in 1776, previously alluded to, before stating the results of that memorable enterprise. The jealousy of the colonial governor, Lord Dunmore, seems to have been fully felt by the republican assembly of Virginia. The one was quite as much opposed to private interference with Indian title to any part of her vast wilderness domain as the other. This appears from the following state of facts.

On the 24th day of June, 1776, five days before the adoption of the first republican constitution of Virginia, the convention had declared against "any purchases of lands within the chartered limits of Virginia without the approbation of the Virginia legislature."*

This declaration seems to have been aimed at the Wataga purchase of Henderson and Co., which has been particularly detailed. Independent of this disapprobation on the part of the legislature, discontent had already risen among the colonists of Transylvania in this remote portion of the Virginia domain. This was mani-

*Journal of the Convention of Virginia for 1776; and Henning's Virginia Statutes.

fested by a petition to the legislature reciting their grievances and praying the interference of that body to redress them. In this petition the inhabitants of the colony particularly complain of the company having advanced "the price of the purchase money from twenty shillings to fifty shillings sterling per hundred acres, and at the same time have increased the fees of entry and surveying to a most exorbitant extent, and by the short period prefixed for taking up the lands even on these extravagant terms, they plainly evince their intentions of rising in their demands as the settlers increase or their insatiable avarice shall dictate." The petitioners also subjected to the legality of the great land company's title from the Cherokees, as inconsistent with the treaty of Fort Stanwix, in 1768.* This petition was subscribed by the principal inhabitants to the number of eighty-eight. To give greater weight to this petition apparently, and at the suggestion of Major Clark, on the 6th of June, 1776, a poll was opened at Harrodstown for the election of delegates to the convention of Virginia, and kept open until the 15th of the month. At this election *Gabriel John Jones* and *George Rogers Clark* were elected to represent in person the grievances of the colony. The former of these gentlemen soon met with his death, as will be hereafter noticed, after gallantly performing this joint duty with Clark. The latter has intertwined his memory with the most endearing services to Kentucky and the great West.

He was the son of John Clark and Ann Rogers, of Spottsylvania county, Va. George Rogers Clark was himself born in Albemarle county, in the same State, in the month of Sept., 1752 or 1753. Little is known of the early years of this most distinguished man; but the confined opportunities of this part of Virginia, though now the seat of the University of Virginia, to which Jefferson, Madison and Monroe consecrated their last days, together with the stirring times of the colonial contest with the parent country, forbid the idea of much artificial cultivation beyond the elements of his native tongue and those not taught with the utmost precision. He is said to have been much devoted to several branches of mathematics, and distinguished for his accurate knowledge of geography.† Clark, like the great chief of the American revolution, was engaged in the surveying of land: he was a deputy surveyor under Col. Crawford, whose melancholy fate will form a mournful page of this work. There seems a fond alliance between this pursuit and military life. Free exercise in the open air, and adventurous exposure to accidents "by flood and field" combine to fasten on a military spirit a fondness for an employment so active, and in the woods of North America at the times in review, requiring so much fortitude and bravery. During the performance

* Annals, 1st edit., 158. Hall's Sketches, II, 236.

† Gen. William Clark, his brother, to the author.

of these duties, Dunmore's war broke out as already narrated; and Clark, like most of the gallant spirits of the time, engaged at the head of a company attached to the right wing of the army which was commanded by the royal governor. At the close of this bloodless campagin, on the part of the governor, he was offered by him a commission in the royal service. These are evidences of early worth, when Clark was just twenty-one years of age; when public favors were charily bestowed in comparison with the lavish and easy acquisitions of more prosperous times. The royal commission was, fortunately for his country and his own fame, declined on consultation with his friends. The troubled complexion of affairs between his native country and Great Britain, then rapidly approaching an ominous crisis, no doubt, had its influence in this refusal of a dazzling temptation to a young man of Clark's military spirit. Early in 1775, he visited Kentucky, then a favorite field of romantic adventure like the Texas and California of more recent times. He penetrated to Harrodstown which, after having been abandoned by Col. Harrod, in 1774, in the late rupture with the Indians in which he participated, had now been re-possessed by its early and daring founder. On this visit Clark either had a commission of Major, or from his previous services in Dunmore's war and prominent talents, was placed at the head of the irregular troops then in Kentucky. He himself only speaks in his memoir of settling in the fall of 1777, the accounts of the Kentucky militia* This fact would confirm the idea of his former command of these troops, besides being known as Major Clark, when titles were not so superabundant as in the more recent and less simple times of the republic. In the ensuing autumn of 1775 Clark returned to Virginia, and again came back to Kentucky in the following spring. In these visits, he says, he reflected deeply in the value of the western country to Virginia as well as the rest of the confederacy. The result of these meditations suggested to him the importance of assembling the people of the country at Harrodstown, as Harrodsburg was then most generally called, to devise a plan of operations for the public defence. It will be recollected that at this time the claims of Henderson & Co., the claimants of the country under the treaty of Wataga, had created great discontents in the country, and added no little to the perplexities of the settlers. It was uncertain whether the south side of the Kentucky river, on which the settlers had mostly collected, as far west as the Tennessee or Cherokee river, belonged to Virginia, North Carolina, or the new colony of Transylvania. These doubts and difficulties increased the necessity of ascertaining the view of Virginia in regard to the settlements of the pioneers. The plan adopted by the settlers was not, however, the one contemplated by

* This is a memoir drawn up by the old hero at the request of President Jefferson, and most kindly communicated to the author at the desire of President Harrison and Judge Rowan, by Gen. William Clark, in 1833.

Clark; he wanted the people to appoint agents with general powers to negotiate with the government of Virginia; and if the people were abandoned by her, to employ the lands of the country as a fund to obtain settlers and establish an *independent state.* This was indeed to anticipate revolutionary movements, which had not then become familiar to the public mind; although the New Hampshire Grants had revolutionized themselves into the State of Vermont. It argues much for the far-seeing sagacity of Clark that he should have conceived in the woods of the West a scheme of such novelty and daring spirit.

The delegates of the people of Transylvania pursued their route through the southern wilderness by the way of the Cumberland Gap, lying between the settlements of Transylvania and those of the older part of Virginia—the Crab Orchard route of a more recent vocabulary. It was a journey of distressing difficulties, though not uncommon in the adventurous enterprises of the times. The party lost one of their horses, the weather was uncommonly wet; the danger of Indians too great to admit of kindling fires. To these embarrassments was added a painful affliction, called by the hunters the *scald feet*, brought on by travelling in the wet and mud. In this complaint the feet become useless from excessive tenderness, and the skin decays; so that the weight of the body becomes intolerable. While suffering under this affliction, "I endured," says Clark, "more torment than I ever experienced before or since."* The old stations near the Cumberland Gap and Martin's Fort, where the travellers hoped to obtain relief on their long and wearisome journey, were found to have been abandoned by the inhabitants, owing to their fears of the Indians. At the latter place, however, our desperate party determined to stay until they recovered the use of their feet. After having effected this object, they proceeded on their journey; but on reaching the county of Bottetourt, they learned that the Virginia convention had adjourned. Upon receiving this intelligence, Jones returned to the settlements or Holston, and left Clark to prosecute the Kentucky mission. While this intrepid and able officer was pursuing his duty pregnant with every interest to the people of Transylvania, a romantic instance of the insecurity of the times, and also of the ardent sympathy which knit the people to one another, shall be presented to the notice of the reader. It is exhibited in the following narrative written by an actor in the scene.†

"On the 7th of July, 1776, the Indians took out of a canoe, which was in the river [Kentucky], within sight of Boonesborough, Miss Betsy Callaway, her sister Frances, and a daughter of Daniel Boone. The last two are about fourteen years of age, and the other grown. The affair happened late in the afternoon. The

* Clark's Papers formerly referred to.

† Letters of Col. Floyd, grandfather to the late Gov. Floyd of Virginia, in the possession of the late Nathaniel Hart, Esq., of Woodford county, Ky.

trees and shrubs on the opposite bank were thick, and came down to the water's edge; the girls, unconscious of danger, were playing and splashing the water with the paddles, until the canoes floating with the current, drifted near the shore. Five stout Indians lay there concealed, one of whom, noiseless and stealthy as the serpent crawled down the bank until he reached the rope which hung from the bow, turned its course up the stream, and in a direction to be hidden from the fort. The loud shrieks of the captured girls were heard, but too late for their rescue. The canoe, their only means of crossing, was on the opposite shore, and none dared to risk the chance of swimming the river, under the impression that a large body of savages was conccaled in the woods. Boone and Callaway were both absent, and night set in before their return and arrangements could be made for pursuit. Next morning, by day-light, we were on their track; but they had entirely prevented our following them, by walking apart through the thickest cane they could find. We observed their course, and on which side they had left their *sign*, and traveled upwards of thirty miles. We then supposed they would be less cautious in travelling, and made a turn to cross their trace; we had gone but a few miles when we found their tracks in a buffalo path — pursued and overtook them in going about ten miles, just as they were kindling a fire to cook. Our study had been to get the prisoners without giving the Indians time to murder them, after they discovered us. We saw each other nearly at the same time. Four of us fired, and all rushed on them, by which they were prevented from carrying anything away except one shot gun without any ammunition. Mr. Boone and myself had a pretty fair shot as they began to move off. I am well convinced I shot one through the body. The one he shot dropped his gun — mine had none. The place was covered with cane, and being so much elated with recovering the three poor little broken hearted girls, we were prevented from making any further search. We sent the Indians off without their moccasins and not one of them with so much as a knife or a tomahawk."

These are the unimbellished circumstances of a transaction which an interesting writer has with a lively fancy disfigured historically into a pretty romance.* It may be necessary to add that the fastening of Boone and his companions by the Indians, to trees, the oath said to have been administered by Boone to his followers, as represented in this biography, are pure drafts upon the fancy unfounded in fact.†

A continuation of such heart rending misfortunes as the one

* Life of Boone, by Flint, written, as the writer assured the author, for *sale*, and not for *use*.

† The only full and truthful beography of the great western hunter is to be found in Spark's American Biography, XXIII, 59, 60, by the Rev'd. J.M. Peck. In this work he mentions that the account by Col. Floyd was confirmed to him in 1818 by Miss Boone, one of the captives.

just related, and the death of the hunters in every direction, spread a dismay which may be faintly conceived from the following extracts from the correspondence with Col. Preston, of Virginia, of the same gallant man who has just been quoted. "I want to return as much as any person can do; but if I leave the country now, there is scarcely one single man but will follow the example. When I think of the deplorable condition a few helpless families are likely to be in; I conclude to sell my life as dear as I can in their defence." Again he says to the same correspondent whose deputy surveyor he was, "I do, at the request of all the distressed women and children and the inhabitants of the place, implore the aid of every leading man, who may have it in his power to give them any relief." Are not these sentiments of noble generosity and devotion to a gallant and enterprising people struggling for their lives and homes in the wilderness of a savage enemy! Well may his descendants be proud of their ancestor's manly bearing, so little likely, at the time to be seen by any other eyes than Col. Preston. But Kentucky was not long to endure these severe trials of the hardiest qualities of the human heart. Her political missionaries to Virginia were true to the test they had undertaken. George Rogers Clark in the absence of his colleage waited on Gov. Henry at his seat, in Hanover county, where he was lying ill. To this eminent statesman, of whom Virginia is so justly proud, and to whom the West owes so much, Clark disclosed the objects of his journey: relief to the pioneers of the West, and adoption by the Commonwealth of Virginia. These met with the cordial approbation of the Governor, and in consequence of which he gave the western delegate a letter of introduction to the Executive Council of the State which, under the first constitution of Virginia, possessed the principal authority. To this body Clark applied for *Five Hundred Pounds of Gunpowder*, in order to defend the stations in Kentucky. The council, though well disposed to assist their countrymen remote as their situation was, and not yet incorporated with the State by any express legal sanction, said, "they could only *lend* the gunpowder to them as friends in distress, but not give it to them as fellow citizens." At the same time the Council required Clark to give security for the value of the powder, in case the legislature should not recognize the Kentuckians; and in the meantime he was to bear the expense of its conveyance to Kentucky. If this had only been from Fort Pitt, then under the government of Virginia, to Boonsborongh or Harrodsburg, it would have been sufficiently onerous, on a private individual through an Indian wilderness. This was a burden, Clark assured the Council, he was unable to bear; he represented to them that the British were trying every means to engage the Indians in the war then raging between the United States and Great Britain; that the people in the remote and exposed stations of Kentucky might be destroyed for the want of the ammunition which he, a

private individual, had at so much personal hazard and hardship sought for their relief; that when the Kentucky frontier was destroyed and broken up, the fury of the savages would be felt nearer home. The Council was still inexorable; sympathy for the frontier stations was readily acknowledged; but the assistance already offered, was a stretch of authority beyond which they could not go. An order was then issued to the keeper of the public magazine to deliver 500 lbs. of gunpowder to Clark.

This officer had long reflected on the situation and prospects of the country he had just left; he knew its destitution; but his resolution to reject assistance on these hard conditions, "was fixed," he says, "before he left the council chamber; to repair to Kentucky and, as he had at first contemplated, to exert the resources of the country to *form an independent State.*" He accordingly returned the order of council in a letter to that body informing them that he had weighed the matter well and found it utterly out of his power to convey military stores to such a distance, through an enemy's country; he said that the people of Kentucky must look for assistance elsewhere than to their native State. This, however, he had no doubt they could obtain; "that a country," he added, "that was not worth *defending*, was not worth *claiming*."

The deliberations of the council on this letter of Clark's are unknown; but they may easily be conceived from the sagacity and patriotism which shown so brilliantly in the government of Virginia under the administration of the great Henry, and which have never failed, when a crisis in public affairs demanded their exertion. On the receipt of this letter, Clark was sent for; and an order of council passed on the 23d of August, 1776, for conveying the gunpowder to Fort Pitt to be safely kept and delivered to Mr. George Roger Clark, or his order, for the use of the said inhabitants of *Kentucki*."*

This is the first step in the long and affectionate intercourse, which has subsisted between Kentucky and her parent Commonwealth. And obvious as the reflexion may be, it should not be omitted, that on the transportation of 500 pounds of gunpowder to the destitute and almost desperate stations of Kentucky hung the connexion between Virginia and the domain which she afterwards acquired west of the Alleghany. A domain which stretched from the Cumberland mountains to the northern lakes, and from the head of the Ohio to the Mississippi—emphatically the great valley whose American history forms the subject of this work.

To this compromise of the council, Clark influenced by attachment to his native State, acceded; and immediately wrote to his friends in Kentucky of his success, desiring them to transport the powder down the Ohio to Kentucky. This letter, in the poverty and uncertainty of communication, was never received.

* See Appendix for a copy of this order, taken from the Clark's Papers.

But the services of Clark to the pioneers of Kentucky and the West had only just begun. At the October session of the Legislature of Virginia, and indeed its *first* legislative session, (for the former session was a constitutional convention.) The Kentucky petition was laid before this body, though the delegates were not, of course, admitted to seats in this body; they did not expect it, but late in the session, on the 7th of December, 1776, in despite of the powerful opposition of Cols. Campbell and Henderson, the *county of Kentuky* was established by law as already related. Thus the first political organization of the pioneers of Kentucky and of the West was principally procured by the generous daring and the politic management of George Rogers Clark, and who is so justly to be regarded as the *founder* of Kentucky and the *chief of the pioneers* of the West. Let honors then as proud as the noble States to which his gallant exertions mainly gave birth, be entwined with his name! This measure first gave form and pressure to the nascent Commonwealth, the first born of the pioneers west of the great mountains.

ARTICLE VII.

Mercantile Biography:

THE LATE SAMUEL APPLETON, ESQ.*

SAMUEL APPLETON was the oldest member of a family whose name, during the last half century, bas been intimately associated with the prosperity of Boston, and with all of its most important interests. He himself might have been singled out as the model of what a merchant should be. Alike highminded in gaining and public spirited in using his means—in his industry and liberal enterprise, his scrupulous uprightness and large beneficence, he was one of the most marked men of a profession which includes within its rank so much of the energy, enterprise, and talent of New England.

Mr. Appleton was a native of New Ipswich, N. H., and was born June 22, 1766. He commenced life with no advantages, except the inestimable one of being trained in childhood in the home of judicious and exellent parents. His father, Dea. Isaac Appleton, was one of the most respected citizens of New Ipswich, but, alike all his neighbors, was subject to the deprivations and hardships of what then was a newly settled country.

* We are indebted to the Merchants' Magazine for the following sketch of the life of the late Samuel Appleton. Esq., which we commend to the study and imitation of merchants, and especially to men of large wealth. Such men are moral heroes—gems of a nation—and their names deserve a place in history not less conspicuous than those of the military chieftain and statesman.—SEN. ED.

In a family of twelve brothers and sisters, Samuel was the third. Except such instruction as he received at home, all his opportunities of education were confined to a few interrupted weeks, each year, from the age of ten to sixteen, in the district school. He, however, made such good use of his opportunities that, at seventeen, he was himself selected to teach a school, and was so successful that during the succeeding winters, and so long as he was willing to engage in the office of teaching, his services were in great request in his own and in the neighboring towns. To the day of his death he took the greatest delight in recalling the scenes, the friendships, and the labors of these seasons of school keeping, when the teacher often had scholars older than himself; when he was sometimes obliged to be a hard student at home that he might keep in advance of his pupils at school, and when his sovereignty over the young republicans about him required the exercice of prudence and self-control as well as vigor.

At twenty-two years of age he joined a party of young men in settling a township in Maine; the conditions being that they should have each alternate lot, provided they would build a house, and clear up a certain number of acres. In this occupation two summers were employed, and the various experiences of frontier life, the hardships encountered with the hopeful hearts of youth, and the expedients by means of which difficulties were overcome, were the subject of much amusement in after years. But labor on a farm was not to his taste. It was evident that his special gift was not for handling the axe and guiding the plough. He had an early desire to become a merchant, and, the way opening for acting out this inclination, he entered into business in the country; first, at Ashburnham, in company with Col. Jewett, and afterwards at New Ipswich, with Charles Barrett, Esq. These fields, however, were too narrow for his ambition. In 1794, at the age of 28, he established himself as a merchant in Boston, and from that time his career was one of uninterrupted and honorable prosperity and usefulness. In 1799 he visited England, and having formed a partnership with his younger brother, Hon. Nathan Appelton, he was for many years engaged very extensively in the importation of English goods. At a later period he was largely interested in the cotton manufacture, which, with a wise foresight of the future industrial wants of the country, had been introduced through the agency of his brother, acting in connection with two or three associates, first at Waltham, and afterwards at Lowell. As he grew older, he gradually withdrew from business, and at length retired from any active participation in it. But he retired from business only to give his thoughts more exclusively to objects of kindness, charity, and public utily.

One of the beautiful traits of his character was his strong attachment for everything connected with his early life. He never forgot his birthplace; and its interests were his interests. In any matter relating to its general welfare, he would have been very sorry if the people of his native town had forgotten to ask him for his aid. Among other things, the academy, which was largely indebted to his liberality for the funds which have placed it on a permanent foundation, will be for him a lasting memorial. His early friends never lost their hold on his interest, and there was no part of his life which he took such pleasure

in recalling as he did the scenes and labors and struggles of his youth. One of the sure tests of an unspoiled heart—he carried through life the affections, the simple tastes, and the cheerful, hopeful feelings of his earliest years.

A stranger on seeing him, we think, would have been first struk by his apparent simplicity and open-hearted honesty. It was in his manner, in his look, and in the tones of his voice. There was no mistaking it. He was an honest man. Without subterfuge or disguise, incapable of anything indirect or underhanded, he had no concealments of his own, and anything in the form of a secret was to him a trouble and a burden. He knew of but one way of speaking, and that was, to say straight on, the truth. It was a principle grown into a necessity of his moral life. He did not know what else to say. It might be deffieult to utter it, but he really could not help it. And so out of the simplicity of his nature his yea was yea, and his nay, nay. This was allied with the kindest and tenderest feelings. No one felt more pain in giving pain to another. But though he might be kind, and gentle, and tender, he could not help being honest. He was himself so thoroughly upright that it was hard for him to doubt the honesty of other men, and, as is often the case, men were really to him what he expected them to be. Said the writer of this notice to him —and the answer threw light alike on his own character and on the character of merchants generally—"You have been long engaged in business, under a great variety of circumstances, and in different countries; what is your opinion in regard to the honesty of mankind?" "Very favorable;" he replied, "Very generally I think they mean to be honest. I have never in my life met with more than three or four cases in which I thought a man intended to be dishonest in dealing with me."

A striking evidence of his character, and of the way in which he himself was regarded, occurred on the only occasion during his life when he was sued. About the year 1820, a merchant tailor, named Endicot, died, leaving a residue of his estate to a Baptist society. Among his papers was a note signed by Samuel Appleton, and endorsed by Ducoster & Marshall, for a few hundred dollars. The committee of the society called on Mr. Appleton for payment. The handwriting was so very like his that it was impossible to distinguish one from the other; but he refused to pay it, declaring it to be, in spite of the resemblance, a forgery. A suit was brought on the note, which was in fact outlawed. He would not, however, allow any plea of this kind to be made, but steadily denied the signature. As the endorsement was evidently genuine, and no other persons of the same name known, the whole matter was enveloped in mystery. This was increased by the fact that he had had dealings with the house of Ducoster & Marshall, as appeared by his books, though nothing was found in them to confirm this note. On the trial, his brother was called as one of the witnesses. He testified that he could not distinguish the signature from Mr. Appleton's handwriting; but that, as he himself had kept the books at the time, and his brother's notes were always paid when due, and there was no trace of such note, it could not be genuine. Notwithstanding this admitted resemblance of the handwriting, and notwithstanding the charge of the judge was

rather against the defendant, the jury found a verdict in his favor. Mr. D. Ellis was foreman, and he stated the verdict was founded on the fact that the jury was quite sure, that Mr. Appleton would not dispute the payment of the note, except on the certainty that he did not owe it.

Mr. Appleton, however, was not satisfied to leave the matter here, if it were possible to unravel the mystery. Some years after he was in Italy, and went to Naples, where Mr. Degen at that time resided —the gentleman who was assignee of Ducoster and Marshall, and had made the endorsement in their behalf. His first step on landing was, not to visit any of the wonders of nature or art, but to search out Mr. D., who, in answer to his inquiries, stated that he perfectly well recollected the circumstance of there being such a note, but that the signer of the note was a ship-master of the same name, who resided in Portland, and who had been dead for some years. Besides his memory of the event, he had at his country-house the books of the firm, and on examining them they were found to confirm entirely with Mr. Appleton's convictions, and to show the reasonableness of the confidence placed by his neighbors and fellow-citizens in his accuracy and integrity.

Mr. A. was the artificer of his own fortune. He was—what so many who are described as such are not—essentially a self-made man. From early youth he had nothing on which to rely, but his own resources of mind and character. The friends whom he never failed to find, and of whom no man had more, were attracted to him by his own merits. No one owed less in early life to what is termed good fortune. Every advancing step was the legitimate result of preceding self-denial, foresight, integrity, and cheerful labor. A full account of his early career would be a hardly less instructive one to young men than that of Franklin. Nothing could furnish a better commentary on the selfish folly of those who think that they do well to be angry with the world, because it does not load them with prosperity before they have done anything to deserve it. He was an accomplished merchant, but his prosperity, instead of being accidental, was owing to years of persevering industry, to his uprightness, to a singularly quick perception of character, and to a native good sense and soundness of judgment which would have made him successful in any vocation that he might have chosen.

He doubtless had the New England love of success in what he undertook. But there were things which he valued more than success. He valued a liberal heart in his own bosom, and an unreproaching conscience, more than he did money. Mammon was never his god, but his servant. His gains had on them no dark spots. In recalling the early years of mercantile life, when habits were forming, and temptations to one struggling into business with limited means were many, it gratified him to remember that he never was sued, and during that time had never instituted a suit against any one: that he made very few bad debts; that he never lost a good customer, and that of the many orders given him to be filled very much at his own discretion, the case scarcely occurred in which any complaint ever reached his ear of the manner in which it had been executed. He never sought large profits; he would not make money out of other

men's necessities, and throughout life, carrying out to the letter his notions of obedience to the law, he would never receive more than the legal rate of interest for what he had loaned. He accumulated a fortune because he was a sagacious and accomplished man of business, and not because of any grasping passion for accumulation. On the contrary, instead of the love of money growing with his years, during the latter part of life he systematically limited its increase. Among his papers is one dated 1823, containing some resolutions which he hoped to carry out with more fidelity than he had done before. Among them, he says—"I promise, during the following year, to spend the whole of my income, either in frivolity, amusement, public utility, or benevolence." Although the last object is introduced so casually, those who were acquainted with him will understand how large a place it held in his thoughts. Another similar paper is found for 1828, in which, after saying in general terms that he has observed men, as they have grown old in years, growing anxious about property till they have seemed to think of little else—and wishing to avoid that state of mind, he promises that during the ensuing year he will spend the whole of his income; making, however, with the careful forethought of one who meant to perform what he resolved, the single reservation of so large a par of the dividends on his manufacturing stocks as should be required to pay any new assessments. How large and liberal were his ideas of one's duty to promote the welfare of others, is seen in the fact that the amount which he gave away during his life was scarcely less than what he had retained for himself.

His relations with his kindred were always of the most interesting kind. Many of his brothers and sisters had large families, and among their children, as a matter of course, was every variety of fortune. Having no children of his own, he adopted into the circle of his affections the children of his brothers and sisters; and during the latter years of his life, no single thing engrossed so much of his thoughts, as their interest and happiness.

In 1819 he marrid Mrs, Mary Gore. This is no place in which to speak of domestic life, but it may be said that while happy in so many other things, he deemed himself ta have been signally blessed in this relation. There never was a more sunshiny home; and for the sunshine which filled it, it was his happiness to feel that he was indebted to the character and affection of the wife whom he loved.

It would be difficult to imagine a more beautiful old age. During its last years he was confined very much to his room and to his chair; but those who were dearest to him were always near him. His heart was so warm, and fresh, and sympathetic, that others felt that their pleasures were doubled by his participation in them; and, on the contrary, he could never enjoy anything alone. The words of Ben Jonson described his habitual feeling:—

"That is but half a joy, is all our own."

On any afternoon that you might visit him, you were likely to find around him some of those who in former years had been engaged with him in business, or his kindred, or the young children of his old friends, for his affectionate nature drew the young to him not less than those who were more advanced; and there, too, you met a constant succession of persons who sought his aid for public objects or private

charities. To consider and meet these calls was, indeed, the great work of his later years. He held his fortune as a means of usefulness, and there was scarcely a day in the year in which he did not contribute more or less to some benevolent object. He of course exercised his own judgment as to whether he would give or not give, and he carried into his works of benevolence the same good sense and clearness of mind which had characterised him as a merchant; but he would have taken it unkindly if, in any enterprise for the public good, or any purpose of private charity, he had been overlooked by his friends. It is sometimes an ungracious task to ask men to contribute money: but Mr. Appleton, whether he saw fit to give or to decline giving, made you understand that he considered that you had done him a favor on letting him have the opportunity. He not only gave with no grudging hand, but he was very likely to add that if, after applying to others, there should still be a deficiency, he would like to be called on again.

During the latter part of his life, he made it a rule to spend his whole income every year; and there was scarcely any public enterprise within that period, or any work of utility, or any charitable institution, or any effort to promote education in the city of Boston, to which he was not a large contributor. Nor were his benefactions confined to the city of his home; but throughout New England his name will be permanently connected with the charitable, educational and religious institutions which received aid from his ready and large-hearted munificence.

But that which characterised his old age more than anything else, was a constantly growing interest in the welfare of the poor. He regularly placed large sums in the hands of physicians and others, who were in the way of seeing those in destitution, and on whose good sense and good feeling, he relied, to be distributed as their judgment should dictate. He could not bear to think that any one whom he could relieve, should suffer from want. It was Cecil, we think, who said that he always thought of the world as divided into two heaps, one of happiness and the other of misery, and that it was his purpose to take something from the latter, and to add something every day to the former. No one ever acted more habitually on this idea than Mr. Appleton. With the habits and decision brought out of a struggling and energetic manhood, there were many things he could resist; but a poor child, or a poor man, he could not resist. He could not resist any tale of want, and though uttered in a whisper, he heard it above all the noise of the world.

Those were the only unsatisfactory days to him, in which he had not done something to promote some one's welfare, or to relieve some one's distress. And all this was done so modestly, so kindly, so much as if he were receiving a favor, that the manner doubled its value. He gave money to the poor in such a way that they gave him back their hearts. He bore all his faculties so meekly, his manners were characterized by such an inbred courtesy, and his good deeds were so simple and unalloyed, that they awakened in all around him kind and friendly feelings. It is said of Raphael that the influence of his genial and kindly character was such, that "the painters who worked around him lived in perfect harmony, as if all bad feeling

were extinguished in his presence, and every base unworthy thought had passed away from their minds." So Mr. A.'s character seemed to create around him a sphere of just thoughts and kind affections.

His religious views and feelings partook of the simplicity of his general character. Though he had decided opinions, he never took any strong interest in questions of controversial theology. His experience in life had taught him that good men were confined to no theological party, and it was his conviction that the fundamental principles of religion, in spite of minor differences, were received by all sects. His nature was not speculative but practical, and religion with him took a practical form. He thought little of the words and much of the substance. Better words to describe him, as he appeared in his habitual course, could hardly be chosen than those in which the prophet gives the comprehensive test of a right life: "What doth the Lord require of thee, but to do justly, to love mercy, and to walk humbly before thy God?" He had the trusting heart of a child; and the practical form which his faith in a spiritual life assumed was touchingly illustrated in an incident that occurred during the year preceding his death. A favorite nephew, to whom he had bequeathed in his will a large proportional amount of his estate, died before him, and by the terms of the will, a half-sister, between whom and Mr. A. there was no blood relationship, became entitled to these bequests. The executor called Mr. Appleton's attention to the fact, thinking that he might wish to make some change in the disposition of his property. After taking the subject into full consideration, his reply was, "If in the other world there is any knowledge of what is done in this, I should not like to have my nephew, whom I so loved and trusted, find that my first act, on learning his death, is the revocation or curtailment of a bequest made in his favor, and which, if he had survived me, would have eventually benefitted her who was nearest and dearest to him. The will must stand as it is."

He died without issue, at his residence in Boston, July 12, 1853, having just entered on the eighty-eighth year of his age. His death was as tranquil as his life. He had always dreaded a lingering dissolution, and his desire that the last hour might come suddenly, was granted. On the last morning of his life he enjoyed his usual health. During the day he had suffered some pain and uneasiness, but the remedies applied had relieved him, and he said, "I will now try to sleep." He composed himself for this purpose, and sank into slumber. In a few moments, however, Mrs. Appleton was alarmed by his louder breathing; she ran to his bedside, and summoned an attendant. He was lying in the same attitude of repose. He was sleeping, but "the sleep that had fallen upon him so gently was the sleep of death."

His mind retained its vigor and clearness to the last, and up to the closing hours of his life, he had been employed on thoughts and plans of beneficence. The sinking sun went down through a twilight over which collected all the beauty of the day.

> "Sure the last end
> Of the good man is peace. How calm his exit!
> Night dews fall not more calmly on the ground,
> Nor weary, worn-out winds expire so soft."

Mr. Appleton was one of those men who not only give a character to the community in which they live, but who create its character.

His enterprise, his great soundness of judgment, his stainless integrity, and his liberality, made him one of those standards of character by which men around measure themselves and others. Such men raise the general average of character throughout the community. Illiberal customs and underhanded methods of business are shamed away from their presence. The young honor and imitate, and those who are older take a heartier interest in whatever relates to the general good. We are accustomed to speak of the benevolent acts of such a man, but infinitely greater than the immediate good done to the recipients of the charity is the general feeling of liberality which such acts awaken and keep alive in the community. Three men, near neighbors, intimate friends, associated much together in common pursuits, died nearly together: Mr. Amos Lawrence, Mr. Robert G. Shaw and Mr. Appleton. Without detracting from the merits of others, it cannot be doubted that these men stood second to none in their liberality towards all objects that had a bearing on the general welfare, and that any reputation which Boston may have was owing, in at least a full proportion to their character. But whatever of good they may have done to individuals, or institutions, the greatest good came from the modest, unpretending uprightness and liberality of their lives, which showed that men might accumulate money and yet value it for its true uses; which gave the visible proof that successful labors did not require the drying up of the heart, and which established a standard of large and wise beneficence. A few accomplished and successful men of business, if they were at the same time selfish and sordid, will lower the whole moral feeling of the community in which they live. And, on the contrary, if right-minded, generous, just, living for others as well as themselves, they elevate the whole moral character of business life.

Samuel Appleton left a fortune of something over a million of dollars. By his will he gave to his widow property valued at two hundred thousand dollars. He left to his executors—Hon. Nathan Appleton, Wm. Appleton, and Nath. A. Bowditch—the sum of two hundred thousand dollars, "to be by them applied, disposed of, and distributed, for scientific, literary, religious or charitable purposes." The residue is distributed among the children and grand-children of his brothers and sisters. There are many who are liberal after their death, who give wisely perhaps, that which they can no longer retain. Mr. Appleton will be remembered as one who all his days made use of prosperity to promote the welfare of others; whose heart grew liberal, and whose hand was opened wider, as his means increased; and whose unostentatious course was from the beginning, like that of a stream through the valley, giving fertility to the whole region through which it flows, and like that too, hiding itself under the very verdure which it has nourished. He has passed from this world, followed by kind, affectionate and grateful memories; and at that day, whose inquisition all may fear, and when the best may shrink from answering for themselves, we may believe that he shall be one of that number—most blessed—who shall have many to bear witness for them—one of those of whom the poor shall say, "he relieved our necessities," and the naked, "he clothed us," and the sick and in prison, "he visited us," and the orphan, the friendless and the forsaken, "when we thought ourselves forgotten by man, by him we were remembered."

COMMERCIAL RECORD.

March 15th, 1854.

At the date of our last report, the navigation of the rivers was closed above Alton, and had been opened but a few days to the mouth of the Ohio. By reference to our files we find the first arrival announced from the Illinois river on the 19th, the first from as far north as Hannibal on the Mississippi on the 21st, and the first from the Missouri river on the 23rd February. But a very limited amount of produce was received, however, before the first of March. Receipts during the present month have been fair in amount, but not so large as might have been expected after so long a suspension of navigation.

The following is a table of principal articles of produce and groceries received at this port from the 16th of February to 15th of March inclusive :

Wheat, sacks	48,081	Bacon, hhds	89
" barrels	1,780	Beef, bbls	243
Flour, bbls	13,339	" tierces	197
Corn, sacks	37,103	Lard, bbls	10,183
Oats, "	50,952	" tierces	3,650
Rye, "	53	" kegs	3,059
Barley, "	1,359	Hides	5,910
Bran, "	2,158	Whiskey, bbls	8,450
Tobacco, hhds	11	Bagging, pieces	6
" boxes	669	Rope, coils	912
Hemp, bales	833	Sugar, hhds	6,464
Lead, pigs	5,707	" bbls	96
Pork, bbls	12,630	" boxes	1,981
Meat, Bulk, pieces	6,891	" sacks	1,221
Meat, casks	522	Molasses, bbls	11,956
" tierces	1,245	Coffee, sacks	20,548
" hhds	21	Salt, sacks	14,503
" boxes	5	Rice, tierces	536
Bacon, casks	68	Nails, kegs	29,151

The prices of the cereals which constitute the great staple of the West, though remunerating, have not opened as high as it was generally expected they would. The prices of breadstuffs in Great Britain touched the highest point about the latter part of the month of January; and though the decline has not been considerable abroad, the unsettled state of Europe has imparted a spirit of caution on the part of dealers there, who only purchase to supply the immediate demands of the trade; this course pursued in England, not only depressed, but made the markets dull in this country.

At *Liverpool*, on the 4th of February, United States white wheat was quoted at 12*s.* 9*d.* to 13*s.*; secondary qualities at 12*s.*

6*d.* to 12*s.* 8*d.* per bushel. From about that date the market became unsettled, and on the 4th instant, we find U. States white wheat quoted at 11*s.* 6*d.* to 12*s.* 3*d.*, and red and mixed at 10*s.* 10*d.* to 11*s.* 9*d.* per bushel. Western Canal Flour which was quoted on the 4th of February at 42*s.* to 42*s.* 6*d.*, had declined to 39*s.* per barrel.

At *New York*, on the 14th instant, good State flour is quoted at $8 per barrel, and prices of all sorts ranging from super to extra from $7.25 to $10. At same date white Gennessee wheat is quoted at $1.95 to $2, and Ohio at $1.85 to $1.90 p. bushel.

The prices of hogs, which were remarkably uniform during the packing season, have been succeeded by a dull and fluctuating market for meats, owing in part to a limited export demand, and in part to an increase in the number of hogs slaughtered for market; but more perhaps to the fact that the consumers in the southern States have produced more at home than in former years. We have generally observed a want of accuracy in the hog statistics of the West, but compelled to adopt the statements as we find them, we have usually looked to the accounts published at Cincinnati as our guide on this subject. The following summary of the hog crop for 1852 and 1853, taken from the *Cincinnati Price Current*, may be regarded as sufficiently accurate, as we imagine, for all practical purposes.

SUMMARY OF HOG STATISTICS FOR 1852 AND 1853.

States.	1852—53.	1853—54.
Ohio	617,342	734,300
Kentucky	369,600	595,235
Tennessee	26,500	53,880
Indiana	611,018	619,176
Illinois	361,132	365,784
Iowa	57,500	45,060
Missouri	112,500	149,845
Wisconsin	35,518	49,000
Detroit	10,000	7,500
Grand Totals	2,201,110	2,534,770

Thus an increase is shown in the crop of 1853–54, of 333,660 head in number. The increase in weight, as nearly as we have been able to ascertain, averaged ten pounds to the Hog, East of the Wabash, viz: in Ohio, Indiana and Kentucky, while in Tennessee, Illinois, Iowa, Missouri and Wisconsin, the increase was fully twenty pounds per head. In our last annual statement, we estimated the Hogs as averaging 198 lbs. throughout the West. This, we presume, was not far from the actual average, and therefore we take it as the basis for our present calculations. Adding ten pounds for the increase in Ohio, Indiana and Kentucky hogs, the average would be 208 lbs., and adding twenty pounds for the

remaining States, the average would be 218 lbs. The entire crop, as reported above, when reduced to pounds, is as follows:

	1852–53.	1853–54.
Ohio, Indiana and Kentucky, lbs...	316.415,830	386,609,808
Other States.....	119,423,700	147,383, 42
Totals.....	435,839,530	533,992,850

This makes the increase equal in number to, in

Ohio, Indiana and Kentucky.....	337,000
Other States.....	128,000
Total.....	465,000

The increase in number is a fraction over fifteen per cent. on last year's aggregate, and in pounds the product shows an increase of twenty-two and a half per cent.

With reference to the Hogs put up by farmers, it is doubtless true, that the number exceeds that of last year, particularly in the West, where packers were more backward in acceeding to the demands of feeders, than in this section. The product of Lard to the Hog is considerably greater than last year. Hogs everywhere were fat and larded well, and the high price of this article induced a very full production. Owing, however, to the fact that the country was almost entirely bare of supplies, in connection with the rapidly increasing home consumptive and a very heavy foreign demand, prices are sustained at a point relatively higher than for other Hog products.

Hogs Driven South and East.

We expected to be able to present with this report, a full statement of the Hogs driven South, and transported to the Atlantic markets, but we have found it impossible, so far, to collect all the facts necessary to such an exhibit.

We have the number received at Buffalo, also the number transported over the Pennsylvania Railroad, Baltimore and Ohio Railroad and those driven through the Cumberland Gap. These statements we here present, though they make only a partial exhibit.

	1852–53.	1853–54.
Through Cumberland Gap.....	53,164	11,100
By Pennsylvania Railroad.....	5,000	30,102
By the Baltimore and Ohio Railroad.....	80,510	93,897
Received at Buffalo by Lake.....	111,223	114,952
By R. R. from Detroit to Niagara Falls..	none	7,000
	249,897	257,050

We observe in the detailed statement from which the foregoing summary is made up that the number of hogs packed at St. Louis for the year 1853–54 is set down at 90,000 against 60,000 the

preceding year. We believe the number set down to St. Louis for 1853–54 is perhaps over-estimated.

FREIGHTS AND NAVIGATION. — By reference to our files we find the first departures of boats from this port to the upper rivers to be as follows: for Missouri river and to Keokuk on the upper Mississippi on the 16th, and for the Illinois on the 19th of February. The rivers opened at a low stage of water, and have risen but little to the present date. Prices of freights upon the upper streams unsettled and high; prices to New Orleans: flour 65 cents, pork 90 cents, and whiskey $1.15 per barrel; wheat and corn 40 cents per sack. FOREIGN FREIGHTS have advanced since our last report; at last dates, flour from New York to Liverpool is quoted at 4*s.* 3*d.* to 4*s.* 6*d.* per barrel; wheat and corn 14*d.* to 15*d.* per bushel in bulk. We notice, at last accounts, a British ship at New Orleans taking corn for Liverpool at 22*d.* per bushel.

MONEY AND EXCHANGE. — There is no new feature to notice in the financial condition of this city. The suspension of business during the winter has delayed collections from the interior; but we believe, money is not difficult to obtain for all legitimate business operations. Money remains high and rather difficult to obtain on bond and mortgage. At New York a spirit of caution seems to have marked the course of the leading firms for some weeks past, which has given a degree of stability and quietness to the money market, which it has not enjoyed since the early part of last year. Money continues to increase in the subtreasury at New York. The amount received for the week ending 11th instant, was 1,212,-432,09; payments during same time only $545,260,72. Balance in the subtreasury at New York at that date $8,022,024,10. The amount of public debt redeemed at the treasury during the week ending 11th instant, was $183,400; and balance outstanding on that day, $52,876,772,52. The shipments of specie at N. York for the week ending the 11th instant, was $312,044, the total from the first of January amounting to $2,737,450, against $2,-580,747 up to same date in 1853, and $6,862,957 to same date in 1852.

Exchange on London remains steady at 108 to 109 for 60 days bills. But in view of the unsettled state of Europe, and of the large imports of foreign merchandize, and also of the probability of a further decline in the prices of produce, there is a strong probability that large shipments of specie must be made during the season.

The weekly report of the New York city banks show a contraction in every department during the week ending on the 11. inst. The amount of specie is now less than at any time since the 6th of August, 1853, while the amount of circulation is larger than an average since November. A considerable increase has been made in the loans since the 11th February, and though there was a con-

traction in this department during the last week, the amount was $2,843,997 more than for the week ending on the 11th of last month.

The following is a state for the last four weeks :

	Loans.	Deposits.	Circulation.	Specie.
Feb. 18, '54	$92,638,085	$61,826,669	$8,954,464	$11,742,384
Feb. 25, '54	93,529,716	61,293,645	8,929,315	11,212,693
March 4, '54	94,558,421	61,975,675	9,209,830	10,560,400
March11,'54	94,279,994	60,226,583	9,137,555	9,832,483

Prices Current of Leading Articles of Produce and Groceries at St. Louis on the 1st and 15th days of March 1854.

	March 1st.		March 15th.
Barley, bushel, sacks returned,	60 to 62½	Sacks returned	60 to 65 cents,
Cattle, 100 lbs., good to prime, nett.	$5.50 to 6.00		$5.75 to 6.00
Coffee, lb. Rio, per lb.,	11 to 12½		dull 11 to 12
Corn, bushel, sacks returned,	40	Sacks included	43 to 48
Flaxseed, p. bushel, last sales	1.35	Sacks returned, sales	1.40
Flour, bbl., country & city superfine, dull	$6.00	Dull, sales	6.00 to 6.25
Gunnies, 2½ bushels, nominal	19	Small sales	16½
Hay, Timothy, 100 lbs, sales	70	Sales	70
Hemp, undressed, tons, no sales.		Sales	1.35 to 1.45
Hides, dry, per lb., sales.	13½	Advancing	14½ to 14¾
Hogs, nett., according to size of lots	$4.50 to 5.00		4.40 to 5.00
Lard, No. 1, in bbls., lb.,	8½ to 8⅝	Sales,	8¾
Lead, lb., sales	6.50	Soft, Sales	6.50
Molasses, gall., good to choice, plantation	23 to 23½		22 to 23
Oats, bushel, sacks returned,	37½ to 40	Sacks included	37½ to 38½
Pig Metal, ton, Scotch, sales	$46.50	No sales.	
" Tenn.	43 to 45	Cold blast sales	45
Pork, Mess, bbl., nominal,	12 to 12.25	Quoted dull	12.00
" bulk meats, hog round	5 to 5¼	Quoted nominal	4¾ to 5
Rye, bush., sales, sacks ret.	60		
Salt, G A., sacks,	1.75	Dull,	$1.50 to 1.60
Sheep, as in quality	3.50 to 4.25	Dull	3.00 to 3.50
Sugar, lb., quoted	3½ to 4¼	Quoted	3¼ to 4
Tobacco, no sales.		Small sales	5.40 to 5.75
Wheat, bushel, sales	$1.15 to 1.32	Sales	1.20 to 1.33
Whiskey, gal.,	21	Sales	20

DEPARTMENT OF INTERNAL IMPROVEMENT.

PACIFIC RAILROAD.—ANNUAL REPORT.

OFFICE PACIFIC RAILROAD,
ST. LOUIS, March 27, 1854.

In conformity with the requirements of the charter, the Directors of the Pacific Railroad submit to the stockholders an exhibit of the condition and affairs of the company, for the year ending the last Monday of March, inst :

1. The amount of capital stock subscribed to this date is $2,382,650.

2. All the stock subscribed on the First Division had been called in, 70 per cent. of that subscribed on the Second Division, and ten per cent. of the subscriptions on the Third and Fourth Divisions, west of Jefferson city. Of these calls $1,202,967 50 has been paid. The amount unpaid of the whole capital subscribed is $1,177,682 50. The number of shares forfeited for delinquency is 205, amounting to $20,500.

3. The amount of bonds received from the State $1,350,000. Yet to be issued for Kansas line $1,650,000; for Southwestern Branch $1,000,000.

4. The total amount expended by the company to the 10th of March in construction and real estate, is $2,644,437 36. The total amount actually expended for all purposes is $2,780,699 26.

5. The floating indebtedness of the company, including bills payable amounts to $111,140.

The funded debt, exclusive of state bonds received, is $99,000, being six per cent. bonds, payable in twenty years issued in purchase of Depot lands in the city.

6. The First Division of the road, extending from St. Louis to Franklin, 38 miles, was so far completed as to admit of a passage of a train over it on the 19th July, 1853; and on the twenty-third of the same month the division was opened for business, since which period daily trains have been regularly running, carrying freight and passengers.

7. The Second Division was put under contract early in May, 1853, and work on the line from Franklin to Jefferson City, 88 miles, generally commenced in August.

Owing to unavoidable circumstances the work on this division has not progressed with the rapidity which the Directors have greatly desired. Usually about 1200 hands have been employed, and the graduation and masonry are in that state of forwardness as that the whole division can be completed within the year, and the Directors feel assured that such a result will follow the successful and timely termination of negotiations now pending for the iron necessary for the superstructure and the continuance of a good market for our State Bonds.

8. The actual amount of receipts and expenditures [apportioned] to the 10th instant, appears in the balance sheet hereto annexed. But a general apportionment of the expenditures and estimate of unexpended means of the company, without reference to the Southwestern Branch, is as follows :

For construction First Division		$1,554,455 00
" " Rolling stock		144,709 37
" " S. W. Branch including expenses of land grant		55,176 50
" Real estate		179,563 77
" Iron Mountain Branch		1,853 58
" construction Second Division and Surveys to Kansas		708,679 24
Total expended on construction and real estate		$2,644,437 46
Materials on hand unapplied		71,045 11
Transportation expenses	41,036 69	
Interest charged to transportation	24,180 00	65,216 69
		$2,789,699 26

MEANS UNEXPENDED.

Stock subscription to be collected	1,179,682 50	
Balance in bank	201,185 39	
	1,380,867	

State Bonds not yet called for,..... 1,650,000 00--3,030,867 89
Portion of land grant applicable to Kansas line is
127,000 acres, at $5 per acre, is..... 635,000 00

Total means..... $3,665,867 89

9. Buildings.—Station houses sufficiently commodious for present purposes, have been erected at St. Louis, Cheltenham, Kirkwood, Meramec, Hamilton Creek, Allenton and Franklin, and platforms at intermediate stations. — An excellent Machine shop, Engine house and Car factory, at which all the repairs are done and the cars of the company are built, have been established at St. Louis, and a small Engine house at Franklin. The company have also two Blacksmith shops, five wood and water stations, between five and six miles of turn-outs and sidings, three turn-tables, a block of ten brick buildings near the machine shop for the accommodation of the men employed at that shop; one small dwelling house at Meramec Station for use of Agent; a cheap boarding house at Franklin for convenience of men employed there, and six small houses between Franklin and Jefferson City now occupied by Engineers, but will be used by Watchmen and Trackmen, &c., when the road is finished.

10. Equipment.—There are now on hand five locomotives [six others contracted for], two stationary and pumping engines, ten first class passenger cars, two second class passenger and mail cars, thirteen covered freight cars, one magazine car, thirty-four platform cars, twenty-eight gravel cars, ten hand and iron cars. Total cars, 107.

There is also on hand some $71,045 worth of material, including 300 axles, four or five hundred tons of rails, and 1300 cords of wood.

Third and Fourth Divisions. —These Divisions comprising that part of the line lying between Jefferson City and the terminus, in Jackson county, are advertised for proposals for contract, to be received in May next. A party of engineers are now in the field making the final location. This part of the line, being in a prairie country, will admit of comparatively cheap and prompt construction. The Board have authorized the issue of $2,500,000 of 7 per cent. convertible bonds, to be secured by mortgage of this line of road, in the belief, that a negotiation at fair prices of such amount of bonds will be sufficient to open the road to Independence Of the land grant, 127,000 acres are found to be due to this line of road, and that quantity of the located and selected lands will be set apart to aid in its completion.

Southwestern Branch. —The final surveys of the past season resulted in a considerable shortening of this line. The length of this Branch, as located, from Franklin to the State line, is 282 49-100 miles. A copy of the location of the entire line from St. Louis has been filed in the General Land Office. By authority of the Board of Directors, the President closed a contract with A. S. Diven & Co., on the 14th instant, for the construction of this entire Branch, on terms which are deemed favorable. It was determined to cancel the former mortgage, and all bonds issued under it, and to issue a less amount of bonds, not exceeding nine millions, and mortgage the Southwestern Branch Railroad only, together with one million of acres of land, subject to the prior lien of the State for $1,000,000. The acceptance of the State bonds and the procurement of the $500,000 private subscription requisite to obtain it, are deemed vitally necessary to the successful prosecution of this enterprise. The construction bonds of the company, six-tenths convertible, will be received by the contractors at par. The First Division, 89 miles, they agree to finish in two years from 1st of May next; the Second Division, 105 miles, in three years, and the Third Division, 88 miles, in four years, the company reserving the right to terminate the contract at any point, twenty miles or less east of the State line.

The Land Grant.—As agent for the State, the President of the company, has succeeded in getting the land grant adjusted in much less time than has been usually employed in similar service. The quantity obtained is about 67,000 acres, short of six sections for each linear mile of road. The quantity absolutely granted of all vacant land by even numbered sections within six miles of the road, is 762,607.51 acres, and the quantity selected outside of the six miles limit and within fifteen miles, in lieu of those sold within the six miles of the First Division is [illegible] acres, making a total of [illegible] acres. The [illegible] within six miles; 25,000 acres se-

lected within fifteen miles, and the remainder, 93,650 acres, selected of superior lands in the southwest.

The *selected* lists required the approval of the Secretary of the Interior, which they received on the 14th March While the grant was absolute and vested in the State, all vacant lands by even numbered sections within six miles of the road and of which no act of the agent or of the land officers could divest the company, yet the great body of the selected lands outside of that limit, were placed by choice among the fertile plains of the southwest. Within the six miles limit are doubtless many pieces of great value, some perhaps near the starting point or eastern terminus of the road; others adjacent to towns; others containing mineral deposits, while the general character of the selected lands will probably prove of a better grade than has been generally apprehended. There is therefore, more than ever, occasion to infer that these lands have not been over-estimated. Steps should be immediately taken to classify these lands, and to affix values to them, below which they should not be sold so long as a construction bond is outstanding, and only sold for bonds, or for cash to be applied in redemption of bonds.

An assistant engineer has been detailed to assist the State Geologist in making a geological reconnoissance of the route on which these lands lie. By judicious management, it is believed that these lands will redeem the construction bonds, and being a free gift, will bestow the South-Western Branch Railroad, without cost to hem on the stockholders.

STATEMENT of Receipts and Expenditures of Pacific Railroad to March 10th, 1854.

EXPENDITURES

For Gradnation and masonry	$852,716 48
Bridges	48,321 63
Superstructure, including ballasting	337,167 30
Do. South West Branch	513 75
Station buildings	41,691 59
Water stations	11,084 66
Land damages and fencing	143,847 67
Machine shops and engine houses	52,714 40
Tools and shop machinery	21,372 55
Locomotives including stationary and sawing and pumping engines	57,597 07
Passenger and baggage cars	35,973 68
Freight cars	41,470 58
Gravel and hand cars	9,668 fi4
Engineering and agencies	47,699 10
Engineering and agencies 2nd division and to Kansas	76,738 78
Engineering and agencies S. W. branch	29,511 93
Turntables	9,116 56
Real estate purchased in addition to right of way, including 12 acres on Seventh street	179,563 77
Contingencies	19,647 32
Do S. W. branch	2,423 61
Land damages " "	661 75
Contractor's account	438,721 71
Interest and exchange account	85,111 85
Commissions	35,762 81
Discount on bonds	18,166 25
Interest on stock	3,122 29
Preliminary surveys J. M. branch	1,853 58
Land grant	16,680 87
Office expenses and stationery	25,515 88
Transportation expenses	41,036 69
Do. interest [charged to]	24,180 00
In hands of officers, bonds and cash	201,185 39
Materials on hand, and not yet applied to the work, viz: iron, ties, wheels, axles lumber, fuel, oil, &c.	71,045 11
	$2,981,884 65

RECEIPTS.

Capital Stock Subscriptions	$1,202,967 50
" paid up	126,100 00

P. R. R. Depot Bonds		90,000 00
Bills payable		49,904 47
State of Missouri [in bonds]		1,350,000 00
Premium on bonds		48,473 55
Floating debt		61,235 33
Forfeited stock account		602 50
Interest scrip		90 92
Geo. R. Smith, Agent		100 00
Income from rent	329 00	
" " passengers	40,039 70	
" " freight [exclusive of business done for the Company, amounting to over $15,000 which is charged to construction]	12,037 73	52,400 48
		$2,981,884 65

Respectfully submitted on behalf of the Board of Directors.
[Signed] THOMAS ALLEN, President.

JOURNAL OF MANUFACTURES.

MISSOURI RAILROAD IRON.

The Railroad System of Missouri, for which companies have been organized, stock subscribed, State credit granted, and routes surveyed, includes twelve hundred miles. Each mile requires one hundred tons of iron rails; and therefore, one hundred and twenty thousand tons of iron rails are necessary to complete the main system. The price of rails, delivered at St. Louis, is now seventy-five dollars per ton—making the cost of rails for the whole system $9,000,000.

The State of Missouri contains the coal and the ore for making the iron to furnish all the rails. But her men and money are not equal to her mines. What shall be done? The roads must be built. The whole system must be completed, and branches must soon be added. Where shall the $9,000,000 go to? Where shall the 120,000 tons of iron come from? Shall we be "carrying coal to New Castle" in both cases? Shall the money of Missouri be sent to England, where there is an abundance of money; and shall the iron of England be sent to Missouri, where there is an abundance of iron? Or shall the people of Missouri rely on and rally their own resources, and with a patriotic spirit, declare and maintain their independence of England for iron as well as for laws?

The time has arrived when this has become a question of vital importance. Money is wanted in Missouri, and so great is the demand for it, that interest twice as high as the law allows, is currently given for its use; and even three times more than the legal rate is not an uncommon figure. How, then, can these $9,000,000 be spared from the State, when the want of money is three times greater than the

law assumes it should be? This money cannot be spared. The want of it added to the present want, would paralyze, and perhaps crush, the mercantile with every other order of business; and leave our Railroad System, like the roofless frame of an unfinished building, worse than unproductive property.

These $9,000 000 must be retained in the State, but they must be applied to a specific purpose: to the manufacture of Missouri Railroad Iron. A portion of it must go into the hands of the builders of furnaces, a portion to the workers in iron, a portion to the proprietors of manufactories, and the largest proportion of it must flow back immediately through the hands of farmers, merchants, bankers, mechanics, landlords and stockholders, and continue in its circulation, relieving the pecuniary wants of the community.

The policy of retaining these $9,000,000 in the State, and applying that sum in the way above specified, although remarkably economical, demands a bold and liberal spirit for its just appreciation, and a patriotic determination for its establishment. Yet when established, it would soon be prosperously maintained by pre-engagements and advances of the Railroad Companies of Missouri. And moreover, while the money in the State, by this policy, is kept in the hands of its citizens, the money of other adjoining States would be sent to our own to purchase iron for their roads. The cost of rails for the Mississippi Valley Railroad alone, without the bounds of Missouri, exceeds $6,000,000. The other Railroads through the States bordering on the west side of the Mississippi river, will require at least $10,000,000 to furnish them with rails. The Pacific Railroad, through the Territories, with its branches, together with the Texas roads, would need $25,000,000 worth of rails—making an aggregate of $50,000,000, which must be invested in Railroad iron to complete a practicable system of Railroads, now urgently demanded, between the Mississippi river and the Pacific Ocean.

The Government of the United States is expected to aid in the construction of the Pacific Railroad at least enough to furnish the rails. Shall this fund—say $15,000,000—be paid to England or paid to Missouri? Shall the whole $50,000,000 for furnishing rails to complete a practicable system of Railroads between the Mississippi and the Pacific, be paid to England or paid to Missouri?

The position of Missouri on this question is a commanding one. She has the power of deciding it which ever way she will. If her sons are worth half as much as her mines, the decision will be quickly rendered in her favor. A bold movement will be immediately made to arouse the public mind to the grandeur and glory of this enterprise. Hundreds of workmen in iron will be brought from Norway and from

Sweden. The absolute law of interest, which has turned off the current of money from the State, will be repealed; the tax on manufactories removed; a liberal, constitutional System of Banking established; inducements opened for money to flow into the State, to be invested in manufactures; and an impetus given to the Iron Trade of Missouri, which, while stimulating every other branch of trade and interest, will make this surpass that of any other State in the Union, and even vie with that of England.

THE IRON STATE,

Is a term of great significance, and has been frequently applied to New Jersey, which is now beginning to claim it on the ground of merit.

We have heretofore declared that the State of Missouri was destined to receive this title. We have adduced evidence tending to prove our declaration, and confidently believe that it will soon be fully substantiated in the progress of our Geolcgical Survey, our Railroad System and our Manufacture of Iron.

Desirous of acceding to New Jersey the distinguished honor which belongs to that State, whose soil was enriched by the blood of the heroes of liberty, whose fruit has melted on the lips, and sent life and joy through the hearts and brains of those who have feasted upon her substantial luxuries, whose mines and manufactures have been sources of material independence, and whose schools and colleges have liberalized and enlightened the Union, we quote a compend of a discourse on her capacities, as published in the *Newark* (N. J.) *Advertiser*, and appeal to the State of Missouri to profit by her example.

CAPACITIES OF NEW JERSEY.

Mr. Miller in his DISCOURSE before the Historical Society, of which we spoke the other day, mingles geological and historical information in it very agreeably and profitably, and we now proceed to analyze its concluding pages.

The war of the Revolution had made terrible ravages in the State, brave men had fallen in battle, towns had been sacked, churches and farm-houses burnt, her treasury bankrupt, and her people "impoverished;" yet, thank God, her means for defence of liberty and country had not been exhausted: her mines and minerals were safe in the depths of the earth, beyond British power. At the call of liberty, these were poured forth from her mountain caverns to arm the soldier for battle. The *Andover Works* were held by the Government till the close of the war; the mines of N. J. for five years furnished iron and steel for the Continental Army. Peace at last came, and with it the ill-fortunes of these mines began. They were forsaken by the Government, and heaps of ruins marked the places where a thriving business once flourished. At length in the course of events, but ow-

ing to no favor or wisdom of the government, these sterile mineral regions are occupied again. That Revolutionary mine, for fifty years a neglected waste, has been transformed by the magic power of modern art, into a deposit of mineral wealth more valuable than gold, and has sent during the last five years, upon railroad and canal, 150,000 tons of its rich ores to the banks of the Delaware. Within the mineral region of New Jersey, there were raised during the last year, about 175,000 tons of ore, which will probably be augmented the next year to 250,000 tons. Says Mr. Miller, I will give you a still more practical illustration of the increasing value of our mineral productions. In the year 1851 one of the largest iron manufacturing establishments in the county of Morris, was compelled, by the ruinous state of the iron trade in this country, to undergo the mortal process of a sheriff's sale. In the hands of its new owners, and under a more auspicious state of the market, its fires were re-kindled in 1852, and during the last year "Boonton Iron Works" used 11,600 tons of Jersey magnetic ore, consumed 23,000 tons of anthracite coal, 3,000 tons of limestone, 6,000 tons of pig-iron, employed in its operations 600 men, paid out for wages $22,000 per month, and manufactured 6,500 tons of nails and railroad spikes. Other establishments in the State consume a still larger quantity of ore, while the demand from abroad is daily increasing.

To these mineral productions are about to be added extensive veins of *Franklinite*, which are to be opened and worked. In 1852, about one hundred years from the time when that first cargo of Colonial bar-iron (mentioned in our first paper,) made its appearance in England, there was placed at the door of the Crystal Palace in London—because it was too large to enter—a mineral rock which, for its size and quality, commanded attention at the World's Fair. This was a pebble specimen of our Jersey mountain of Zinc, for which the *New Jersey Zinc Company* gained the prize medal over France and Belgium. The learned committee also pronounced the Oxide of Zinc as a white paint in place of salts of lead, to be one of the remarkable events in the recent history of chemical art. It has attained a distinction uncommon for an American production; for it embellishes the rooms not only of our Democratic houses, but one of the apartments in Windsor Castle, where it may be distinguished from all other pigments by its glossy whiteness, peculiar to Jersey zinc paint. New Jersey, with her magnetic and Franklinite iron mines, and zinc deposits of inexhaustible supply, possesses the richest field of mineral wealth in America.

In 1740 the fifty-nine neglected forges of Great Britain produced only 17,000 tons of iron; in 1852, her thousand protected furnaces and mills rolled out about 3,000,000 tons. Prior to 1776, she imported her iron from the colony of New Jersey to supply her home market. In this 78th year of Independence, she exports to the United States, 500,000 tons of manufactured iron. Her mines constitute the most productive source of national wealth in the world. This element of power and opulence, so triumphantly developed in England, is also possessed by New Jersey. Hitherto, we have not been able to improve it, and our mines have neither advanced the fortunes of their owners, nor the prosperity of the State; but the time is now upon us, when we can compete on more equal terms with English

capital and cheap labor, and when our State become what Wales is to England, the IRON DISTRICT OF THE UNION. Many of the States have significant names—ought not New Jersey to be presented and accepted among her sisters as the IRON STATE?

She also possesses large AGRICULTURAL RESOURCES. Variety of soil, genial climate, cheap manures, and ready markets, are the chief elements of prosperous husbandry, and they are ours. To those may be added, a happy formation and position. The loam formations of the southern counties, the gravel of the middle, and the clay of the northern, afford the surest and most available farm land for grasses and grains. Our proximity to the two best markets of the country, insures encouragement to horticulture, and to the culture of the delicate fruits —the product of skill as much as labor and capital. Almost the entire seaboard of the State has undergone a geological revolution. The bed of the Atlantic has been raised, and become an arid sand bank, where beds of marl may be gathered to convert blank and bleak sterility into an expanse of smiling verdure.

With the following eloquent concluding paragraphs from this Address, we commend it to our readers as one which every Jerseyman may peruse with profit and pleasure:

"The territory of New Jersey, glorious in history, rich in mineral wealth, beautiful in scenery, and healthful in climate, is now occupied by four hundred thousand American citizens, who are the owners of its soil, and the masters of its government; free men, whose labor and enterprise accumulate public wealth, and whose votes direct its administration. Free, yet frugal; independent yet submissive to law; and using liberty without abusing it, unencumbered by public debt, the people of New Jersey enjoy that happy medium state which secures them against the corruptions of wealth, and the temptations of poverty, they should be neither the slaves of mammon, nor the tools of politicians. To what a lofty social and political pre-eminence may not such a people advance such a State! They may not only make it teem with the richest productions of the field and the mine, of the loom and hammer, but also, out of their abundance, adorn the land with the noblest works of art, embellish it with all useful institutions of learning, and sanctify it with beautiful temples of religion.

The increasing prosperity of the State indicates that we are upon the onward march, yet we still lag far behind some of our sister States. Let us, then, quicken our energy, rally our forces and press forward, and never rest till we place New Jersey in the relative position which she occupied in 1776, in the front rank of the Atlantic States of the Union—the flag of THE IRON STATE waving as high as the highest."

RENE.

FROM THE FRENCH OF CHATEAUBRIAND.

(*Conclusion.*)

By the Junior Editor.

A large assembly filled the church. They led me to a seat in the sanctuary; I threw myself on my knees almost without knowing where I was, or what I was doing. The priest was already waiting at the altar. Suddenly the strange grate opened, and Amelie advanced, decked with all the pomp of the world. She was so beautiful, there was something so divine upon her face, that she excited an emotion of surprise and of admiration. Overcome by the glorious grief of the saint, subdued by the grandeur of the religious ceremony, all my aims of violence were lost; my strength was gone; I felt myself bound by an Almighty hand; and, instead of oaths and threats, I found in my heart only profound feelings of adoration and sighs of humility.

Amelie placed herself under a canopy. The sacrifice began with lighting the candles, amid flowers and perfumes, which rendered the holocaust pleasing. At the offertory, the priest took off his ornaments, retaining only a tunic of linen, entered a pulpit, and in a discourse, plain and pathetic, portrayed the happiness of the virgin, who consecrated herself to the Lord. When he spoke these words "She has appeared as the incense which is consumed in the fire," a solemn silence and celestial odors seemed to spread themselves among the audience. One felt as though he were sheltered under the wings of the mystic dove, and thought he could see the angels descending on the altar, and re-ascending toward heaven with perfumes and garlands.

The priest closed his discourse, resumed his raiments, continued the sacrifice. Amelie, attended by two young Nuns, kneeled down upon the last step of the altar. Then came one inviting me to fulfill the duties of a father. At the sound of my unsteady steps in the sanctuary, Amelie is on the point of fainting away. They place me beside the priest to present him the scissors. At this instant, I feel my agitation revive; my rage is just bursting forth, when Amelie, rallying her courage, casts on me a glance so full of reproach and of grief, that I am arrested in my passion. Religion triumphs. My sister takes advantage of my confusion. She boldly presents her head. Her proud locks fall hither and thither under the sacred iron; a long robe of bombasine, in place of the ornaments of the world, enfolds her, rendering her equally attractive; the cares on her forehead are concealed under a band of linen; and the mystic veil, two-fold symbol of virginity and of religion, surrounds her despoiled head. Never had she appeared so beautiful. The eye of penitence was fixed on the dust of the earth, and her soul was in heaven.

But Amelie had not yet pronounced her vows, and in order that she should be dead to the world, it was necessary for her to pass through the tomb. My sister laid herself down on the marble; they spread the funeral drapery over her body; four burning candles mark the four corners of the pall. The priest, stole on neck, book in hand, begins the office of the dead; the young virgins continue the ceremony. O, joys of religion! how sublime, but how terrible ye are! They had constrained me to kneel beside this mournful preparation. Suddenly a confused murmur came from underneath the veil of the sepulchre. I leaned over, and these dreadful words, intended for me only, struck my ear: "God of Mercy, grant that I may never rise again from this bed of death, and shed thy blessings on a brother who has never shared my criminal passion!"

As these words escaped from the coffin, the frightful truth shone on me. My reason wandered; I could not refrain from throwing myself on the linen of the dead. I clasped my sister in my arms; I exclaimed: "Chaste bride of Jesus Christ, receive my last embraces, amid the ice of death and the depths of eternity, which are already parting thee from thy brother!"

This emotion, this cry, these tears, confuse the ceremony. The priest stops, the attendants shut the grate, the crowd excited press toward the altar. They carry me away unconscious of myself. How little I knew in comparison with those who re-called me to life! I learned, on opening my eyes again, that the sacrifice was ended, and that my sister had been seized with a burning fever. She sent me her prayers, that I would see her never more. O, misery of my life! a sister fearing to speak to a brother, and a brother fearing lest his voice might be heard by his sister! I went out of the monastery as from the place of expiation where the flames prepare us for the heavenly life, where one has lost all, as in the realm below, except hope.

One can find strength in his soul to withstand personal misfortune; but when he becomes the involuntary cause of misfortune to another, he is overwhelmed. Advised about the afflictions of my sister, I imagined what she had been obliged to suffer. Then, many things which I could not understand before, were explained; that blended joy and sadness, which Amelie had displayed at the time of my departure for my travels, the care she took to shun me on my return; and, moreover, that weakness which hindered her so long from entering the monastery: doubtless the unhappy child flattered herself that she could be cured! Her projects of retreat, the dispensation of noviciate, the settlement of her estate in my favor, had probably produced that secret correspondence which served to deceive me.

'O my friends! I knew then what it was to shed tears for an affliction which was not imaginary! My passions, for a long time undetermined, cast themselves on this first prey with fury. I found even a kind of unexpected satisfaction in the flood of my grief, and I discovered, with a secret emotion of joy, that sorrow is a feeling which one cannot waste away like pleasure.

'I had wished to quit the earth before the order of the Almighty. That was a great crime; God had sent Amelie to me, both to save and to punish me. Thus, every guilty thought, every criminal action, draws disorder and misfortune in its train. Amelie entreated me to live, and I felt bound to comply with her prayer, that I might not aggravate her afflictions. On the other hand, strange fact! I no longer envied death since I was really unhappy. My grief had become a business, which occupied all my time; my heart is naturally so much kneaded with *ennui* and with misery.

'Then suddenly, I made another resolution; I determined to leave Europe and go to America.

'Just at that time, in the port of B———, they were equipping a fleet for Louisiana. I made my arrangements with the Captain of one of the vessels. I made my project known to Amelie, and I was busy preparing for my departure.

'My sister had touched the gates of death; but God, who destined for her the first palm of the virgins, wished to recall her to Himself not so soon; her trial here below was prolonged. Having descended a second time upon the painful career of life, the heroine, bowed under the cross, advanced courageously to meet the chances of affliction, seeing only triumph in the struggle, and in proportion to the amount of her sufferings, a recompense of glory.

'The sale of the small estate which belonged to me, and which I ceded to my brother, the many preparations for a voyage, the adverse winds, kept me in port a long time. I went every morning to gain news of Amelie, and I returned always with additional causes of admiration and of tears.

'Incessantly I was roaming around the monastery, built on the brink of the sea. I frequently perceived, by a little grated window, which overlooked a bleak shore, a nun sitting in a pensive posture. She mused upon the aspect of the ocean, where some vessels appeared sailing toward the ends of the earth. Many a time, by the light of the moon, I have again seen the same nun at the bars of the same window. She looked upon the sea, lit by the star of night, and seemed to lend her ear to the sound of the waves, which dashed sadly on the onely strands.

'Then again, I thought I heard the bell, which during night, summoned the nuns to vigils and to prayers. While it was gently tingling, and the virgins were silently approaching the altar of the Almighty, I rushed toward the monastery. There, alone, at the foot of the walls, I heard in a holy extasy, the last sounds of the chants, which, under the vaults of the temple, blended themselves with the faint roarings of the billows.

'I know not how all these things, which should have inflamed my griefs, on the contrary soothed their sting. My tears had less of bitterness, while I was shedding them among the rocks and amid the winds. My affliction even, by its nature extraordinary, carried with it some remedy. One enjoys what is uncommon, even though it may be a misfortune. I almost entertained the hope that my sister, in her turn, would become less miserable.

'A letter which I received from her before my departure, seemed to confirm me in these ideas. Amelie complained tenderly of my grief, and assured me that time softened her own. "I do not despair of my happiness," she said to me, "The extremity of the sacrifice, now the sacrifice is finished, restores me some peace. The simplicity of my companions, the purity of their wishes, the regularity of their life, everything sheds a balm over my days. When I hear the growling of the storms, and when the bird of the sea comes and beats on my window with its wings, I, poor dove of heaven, I think of the happiness which I enjoy in having found a shelter against the tempest. Here is the holy mountain, the elevated summit on which one hears the last noise of the earth and the first concerts of heaven. Here it is that religion gently allures a sensitive soul; instead of the more violent passions, it supplies a kind of ardent chastity, in which the glowing love of woman and the innocence of the virgin, are blended. It refines every sigh; it transforms a perishable into an immortal flame; its mingles divinely its composure and its purity with that repose from trouble and that voluptuousness of a heart which seeks rest and a retired life."

'I know not what heaven holds in reserve for me, and whether it wishes to warn me that my steps are everywhere accompanied by storms. The order for the departure of the fleet was given; many vessels were ready at sunset. I was making arrangements to pass the last night on shore, in order to write my letter of farewell to Amelie. Toward midnight, while I was engaged with this object, and while my tears were dropping on my paper, the noise of the wind struck my ear. I listened; and, amid the tempest, I distinguished the reports of the alarm-gun, blended with the tollings of the monastic bell. I flew to the shore which was wholly deserted, and where one

could hear only the roaring of the waves. I seated myself on a rock. On the one side, the brilliant waves spread themselves out before my eyes; on the other, the sombre walls of the monastery were lost in obscurity against the skies. A little light shone at the grated window. Was it thou, O my Amelie, who, prostrated at the foot of the crucifix, wast praying the God of storms to spare thy unhappy brother? The tempest on the waves, the calm in thy retreat; men dashed upon the rocks at the foot of the asylum, which nothing can disturb; the infinity bounding the walls of a cell: the agitated watch-lights of the vessels, the immovable light-house of the convent; the uncertainty of the destiny of a sailor, the vestal conscious in a single day of all the future days of her life; moreover, a soul such as thine, O Amelie! stormy as the ocean; a shipwreck more frightful than that of the mariner:—the whole of this picture is yet deeply engraved in my memory. Sun of the new heaven, present witness of my tears—echoes of American shores which repeat the accents of Rene—it was the morrow of that terrible night, that seated on the deck of my vessel, I saw my native land fading forever from my eyes! I gazed a long time on the coast at the last wavings of the trees of my country, and at the tops of the monastery which were sinking below the horizon.'

As Rene finished the recital of his history, he drew a paper from his bosom, and gave it to Father Souel; then, casting himself in the arms of Chactas, and stifling his sobs, he waited for the missionary to read through the letter just placed in his hands.

It was from the Superior of * * * It contained the recital of the last moments of Amelie, Sister of Mercy, who died a victim of her zeal, and of her charity, attending her companions, attacked by a contagious disease. The whole community were inconsolable, and they all regarded Amelie as a saint. The Superior added that, during thirty years, while she was at the head of the house, she had never seen a nun with a disposition so sweet and so uniform, nor one who was more content at having left the tribulations of the world.

Chactas pressed Rene in his arms. The old man wept. "My child," said he to his son, "I wish that Father Aubry were here. He would draw forth from the bottom of his heart, a mysterious peace, which, while calming, seemed at the same time, not ungenial to its storms. It was like the moon on a stormy night; the wandering clouds cannot prevail against it in their course; pure and steady it moves on tranquilly above them. Alas! for myself, everything troubles me, and hurries me away."

Until now Father Souel, without uttering a word, had listened with an austere air to the history of Rene. He carried in secret a compassionate heart, but outwardly he displayed an inflexible character. The sensibility of the Sachem made him break his silence:

"There is nothing," said he to the brother of Amelie, "there is nothing in this history which deserves the pity which is shown you here. I see a young man infatuated with idle fancies, to whom everything is displeasing, and who is disposed to avoid the duties of society, in order to yield himself up to useless reveries. Sir, one is not a superior man on account of the fact that he looks on the world in an odious light. One does not hate men and life except because he does not see far enough. Raise your eyes a little more and you will soon be convinced that all the afflictions of which you complain, are pure nothingness. But what shame on being unable to think of a single real misfortune of your life, without being forced to blush! All the purity, all the virtue, all the religion, all the crowns of a saint, render the sole idea of your sorrows scarcely tolerable. Your sister has atoned her fault; but if it be necessary here to speak my thought, I fear that by a dreadful justice, a confession issued from the bosom of the tomb, has not, in turn, troubled your soul. What are you doing alone in the depths of the forests, where you consume your days, neglecting all your duties? Do you tell me, the saints have buried themselves in the desert? They were there with their tears, and employed, in subduing their passions, the time which you lose, perhaps, in cultivating yours. Presumptuous youth, who have supposed that man can satisfy himself alone! Solitude is dangerous for him who does not live with God. It redoubles the powers of the soul, at the same time that it takes away every subject on which those powers should be exercised. Whosoever has received powers should consecrate them to the service of his fellow-creatures. If he leaves them useless, he is first punished by a secret misery, and sooner or later, heaven sends him horrible anguish."

Troubled by these words, Rene raised again, from the bosom of Chactas, his humiliated head. The blind Sachem gave him a smile; and that smile of the lips which mingled itself no more with the smile of the eyes, had a mysterious and heavenly charm. "My son," said the old lover of Atala, "he speaks to us severely; he corrects both the old man and the young man, and he is right. Yes, it is necessary that thou should'st renounce that extraordinary life, which is full only of cares, for there is no happiness except in the customary ways.

"At first the Meschacebe,* while yet near its source, permits itself to be only a limpid stream. Afterwards, it calls for snows from the mountains, waters from the torrents, rains from the tempests. It overleaps its banks, and desolates its beautiful borders. The proud stream then speaks aloud of its power; but seeing that it spreads abroad de-

* Indian name of the Mississippi.

struction in its course ; that it flows along in abandonment through the solitude ; that its waves are always turbid : it longs for its humble bed which nature made, the birds, the flowers, the trees and the streams —quiet companions in the early days of its peaceful meanderings."

Chactas was silent, and the voice of the *flamingo* was heard, which, retired among the reeds of the Meschacebe, announced a storm at mid-day. The three friends started on the track toward their cabins. Rene marched in silence between the Missionary, who prayed to God, and the blind Sachem, who sought his path. They say that, urged by the two venerable old men, he returned to his wife, but found no happiness. He perished soon afterwards, with Chactas and Father Souel, in the massacre of the French and the Natchez, at Louisiana. A rock is still shown where he used to go and see the sunset.

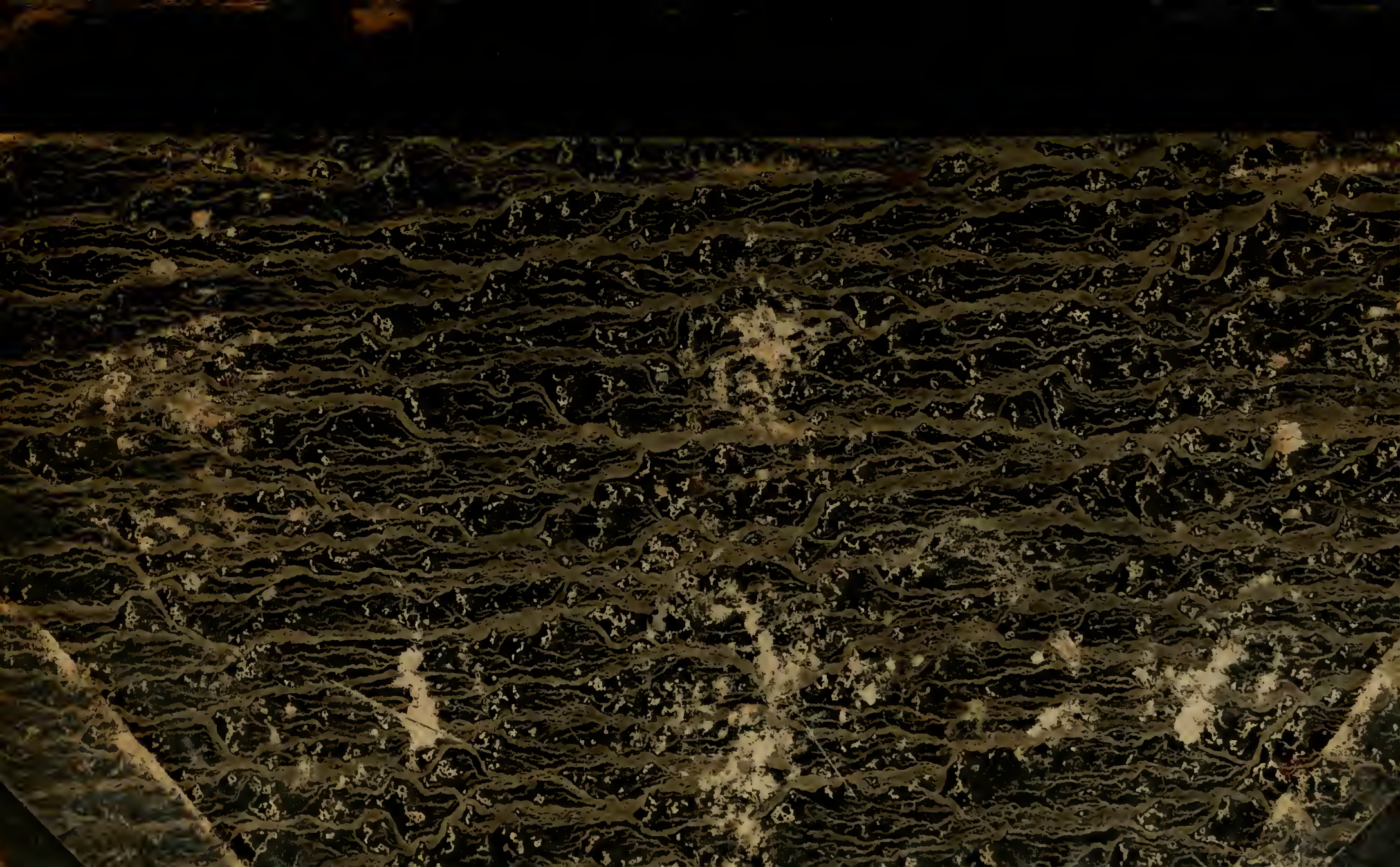
END OF RENE.

The Mississippi.

AN IMAGINARY SKETCH.
By Mrs. Mary R. Hall.

There was a time when this majestic stream,
Flowed not as now, hedged in by rocky cliffs ;
But o'er a wide, a vast extent of land,
Calmly and beautifully its waters slept.
The flower-clad prairies that stretch away
On either side, lost in the distant view,
Once form'd the bed of a fair silver lake,
Beneath whose shining surface there appeared
The finny tribes, sporting amid the waves.
Bright birds, with plumage gay, of species now
Unknown, poured forth their strange, melodious songs,
As hov'ring near, they sought to quench their thirst,
In the pellucid waters at their feet.
And beasts of prey, such as the earth knows not,
Came crouching from their hiding place, to bathe
Their mammoth limbs, and cool their parched tongues ;
Then crept away with stealthy tread, back to
Their haunts, casting around a timid glance,
Snuffing anon, the passing breeze which fann'd
Their hideous forms, fearing, as it would seem,
The near approach of man. For man here dwelt!
Not such as now exist ; their blood was not
The same that courses in the red man's veins,
Nor can we claim them our ancestral race.
Proudly their cities rose on either side
Of this vast lake, whose placid bosom bore
Full many a graceful bark, with whitened sails,
Freighted with wealth and costly gems of art.

'T was eve—a sultry summer's eve: the sun
Had sunk to rest mid misty folds of heaven's
Dark drapery, o'er which the lightnings wreath'd
Like fiery serpents, their fantastic forms,

While muttering thunders with dire cadence fell
Upon the ear with agonizing wail!
It was the Storm-King's voice. Upon his throne
Of ebony he sat, and beckoned with his
Shadowy hand to all his phantom host.
Quick to his call the wild, Wind-Spirits came,
And marshall'd in their dread array, prepared
For conflict, ere the command was given.
On to their work they sped! with lighted torch
They crept into dark caverns, where earthquakes
For centuries had slumber'd, and awoke
Their smother'd fires and lash'd them on to fury.
Silence now reigned—the thunder's voice had ceased!
Calm—oh how calm! not e'en a leaflet stirred:
Ripple nor wave disturbed the surface clear,
Or swell'd the bosom of the peaceful lake!
Man sallied forth that he perchance might feel,
A cooling breeze upon his fevered brow;
And mothers sat with casements open wide,
Fanning their sleeping infants, while fair
Maidens with their lovers talked; the moon
Meanwhile in undimm'd splendor rose
As witness to their oft repeated vows!
But hark! from whence that deep and muttering sound;
Why quaked the earth with quick, convulsive throes?
Terror struck every heart! The mother clasp'd
Her unconscious babe, while to her garments clung
Her trembling little ones. Men looked aghast,
And running to and fro, they sought to solve
The awful mystery, but sought in vain.
Once more dread silence reign'd, while crowds conven'd
To talk and wonder! Again earth groan'd!
The moon grew pale and meekly veil'd her face;
The stars look'd wondering down upon the wreck,
Then closed their eyes, unused to such a scene!
Still rocked the shatter'd earth! Proud cities fell,
Crushing beneath their weight all that had life.
Wild beasts of prey came forth, and howling gnash'd
Their teeth and strove each other to devour.
Back rolled the waters of the lake, whose waves
Towering like mountains high, leap'd in the air,
Then dash'd upon the land with fury wild,
And play'd among the ruins, till every trace
From off the earth forever pass'd away!
A mighty chasm form'd by the rending rocks
As nature gasp'd and heav'd her laboring breast,
Now yawn'd, and beckon'd to the madden'd waves,
To leave their fearful sport and calmly flow
In the broad channel which God's hand had wrought!
Sullenly they obeyed.
The morning dawn'd,
And the bright orb of day arose and shone
With all his wonted splendor, but no signs
Of life appeared, o'er all that blacken'd waste!
Silence unbroken reign'd; while ages pass'd,
And of the race thus swept away, no trace
Is left, save here and there a scattering mound,
Or curious work of art! Blotted from off the page
Of history, their mem'ry sleeps in the
Dark vault of chaos, upon whose misty
Walls, no pen hath traced a name immortal.

Keokuk, Iowa, 1854.